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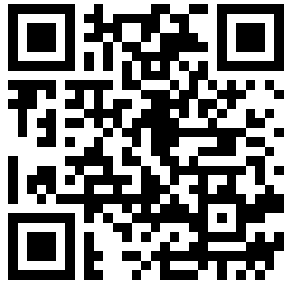

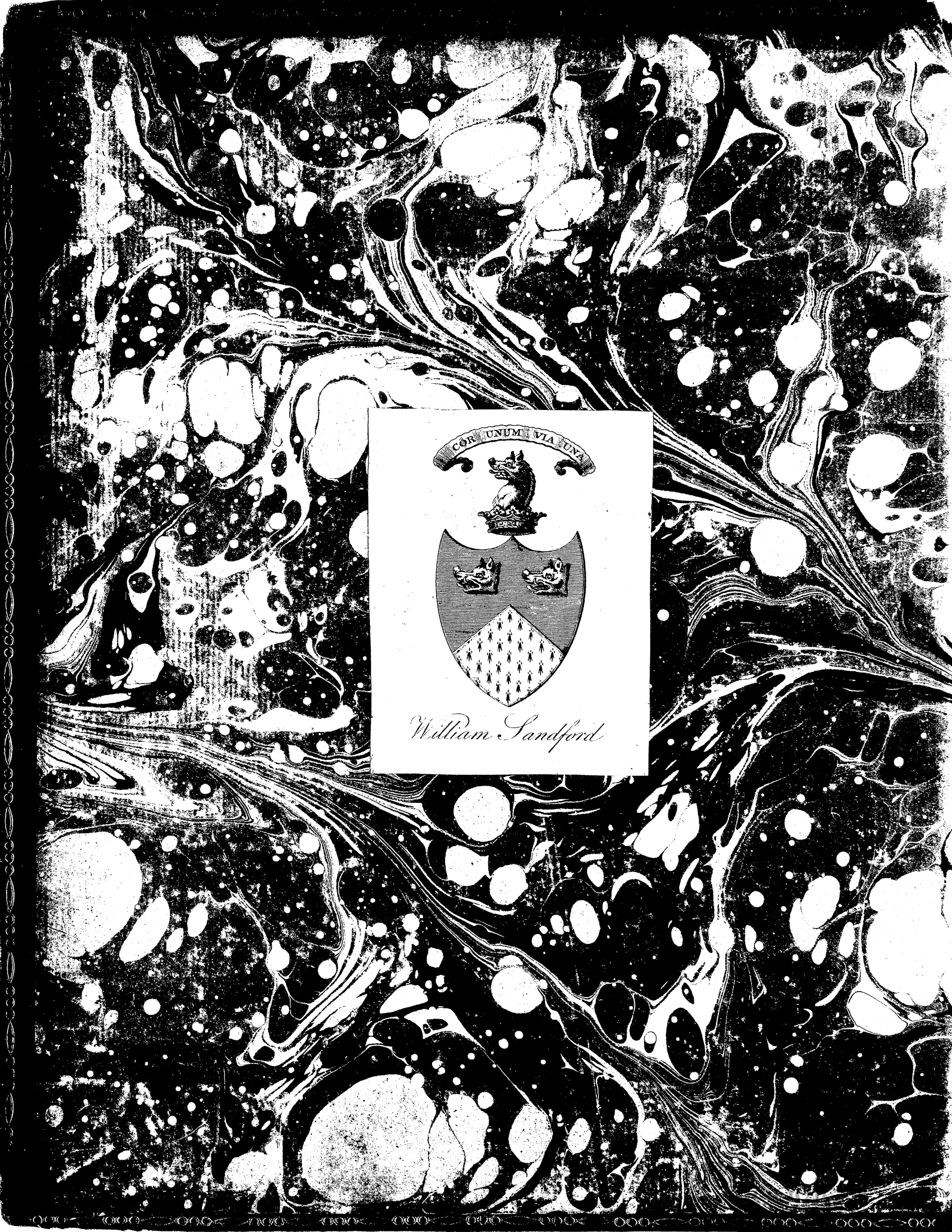
COR UNUM VIA UNA
William Sandford

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Hon: Sandford

TRAVELS

INTO

DALMATIA;

CONTAINING

GENERAL OBSERVATIONS ON THE NATURAL HISTORY OF THAT COUNTRY AND THE NEIGHBOURING ISLANDS; THE NATURAL PRODUCTIONS, ARTS, MANNERS AND CUSTOMS OF THE INHABITANTS:

IN A

SERIES OF LETTERS

FROM

ABBE ALBERTO FORTIS,

TO THE

EARL OF BUTE, THE BISHOP OF LONDONDERRY, JOHN STRANGE, Esq. &c. &c.

TO WHICH ARE ADDED BY THE SAME AUTHOR,

OBSERVATIONS ON THE ISLAND OF

CHERSO AND OSERO.

TRANSLATED FROM THE ITALIAN UNDER THE AUTHOR's INSPECTION.

WITH AN APPENDIX, AND OTHER CONSIDERABLE ADDITIONS, NEVER BEFORE PRINTED.

ILLUSTRATED WITH TWENTY COPPER PLATES.

——MODO EXUSTIONE, MODO ELUVIONE TERRARUM DIUTURNITATI RERUM INTERCEDIT OCCASUS.——

MACROB. IN SOMN. SCIP. L. 2. C. 10.

LONDON:

PRINTED FOR J. ROBSON, BOOKSELLER, NEW BOND STREET.

M DCC LXXVIII.

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TO THE

RIGHT HONOURABLE

THE EARL OF BUTE,

KNIGHT OF THE GARTER.

MY LORD,

THE earneſt deſire I have of making known to the World, how much I eſteem and honour Your Lordſhip, and by how many Ties of particular Gratitude I am become Yours, encourages me to give this public Teſtimony of it, in the only Way that Fortune uſually offers to Men of Letters. Though ſuch a Tribute bears no Proportion to Your Lordſhip's Greatneſs, yet I preſent it chearfully, being perſuaded that it will be graciouſly received; and the more ſo, as Your Lordſhip in reality has had the greateſt Share in the Work itſelf. For it began under Your Auſpices, from that beneficent Genius that inſpires You to promote, by the moſt generous Means, the Improvement of the Arts and Sciences in general, and particularly Natural Hiſtory, Your favourite Study. It was Your Lordſhip's

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learned Curiosity and Munificence, so well known throughout the Polite Parts of Europe, that first encouraged me to cross the Adriatick, principally to enquire into the Truth of the prevailing Report concerning the extensive Strata of Fossil Bones in the Islands of Liburnia, and along the Coasts of Dalmatia. It was also by Your Lordship's desire, that I reduced into some Form the particular Observations I had occasionally made there. How far the Execution has corresponded with the Pains I have endeavoured to take, Your Lordship must judge; but be that as it may, I am persuaded that You will judge with Indulgence, and accept with Pleasure, the cordial and respectful Offering of a grateful Mind.

I HAVE THE HONOUR TO BE,

WITH THE MOST DEVOTED ATTACHMENT,

MY LORD,

YOUR LORDSHIP'S

MOST OBLIGED AND

OBEDIENT HUMBLE SERVANT,

ALBERTO FORTIS.

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TO

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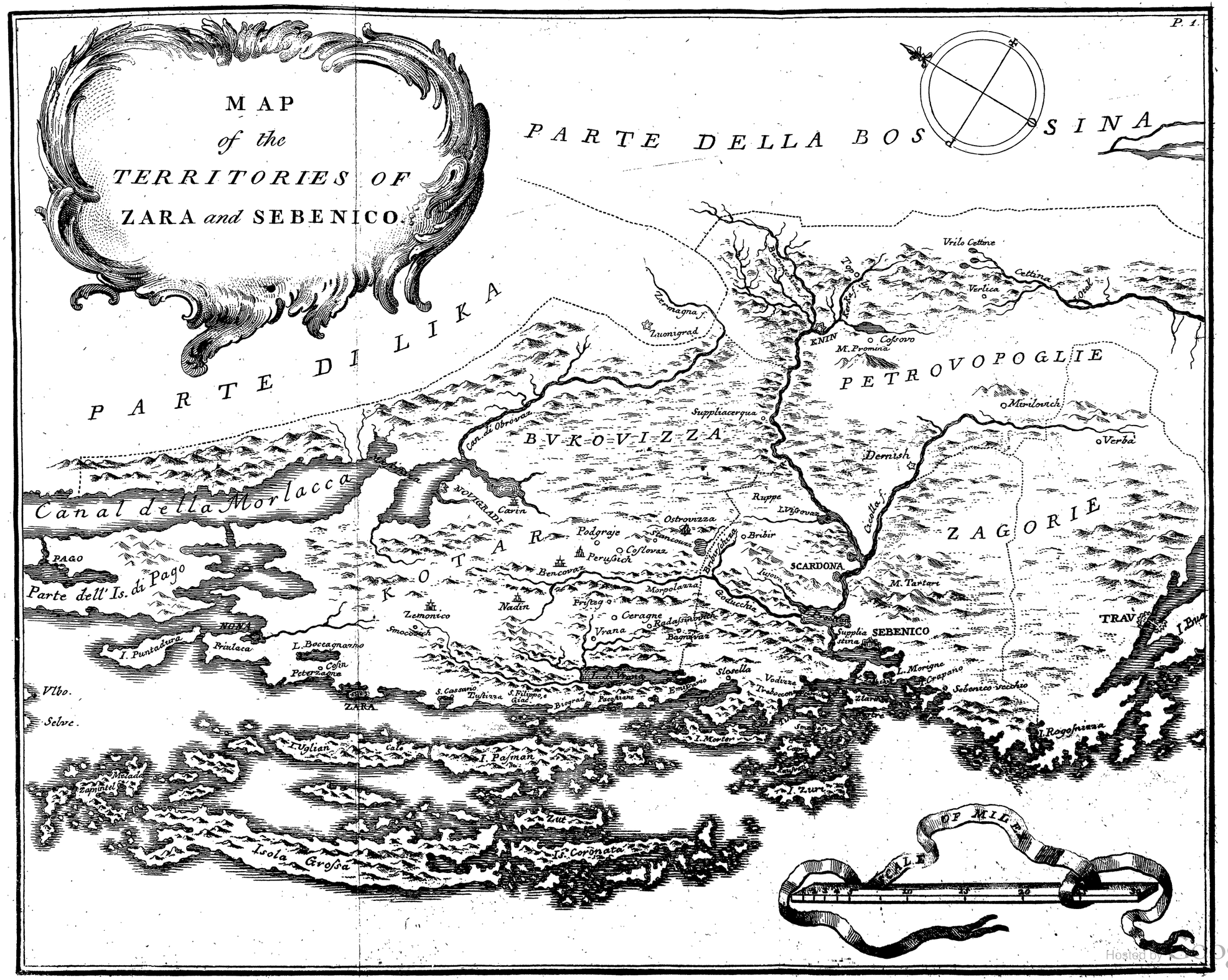
P. 1.
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of the
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PARTE DI LIKA
Canal della Morlacca
PAGO
Parte dell' Is. di Pago
NONA
I. Puntadura
Priulaca
L. Boccagnazzo
Cosin
Peterzagne
ZARA
Vlbo.
Selve.
Isola Grossa
Is. Coronata
Zut
I. Pasman
I. Uglian
Cale
Melada
Zapuntel
Zemonico
Smocovich
Nadin
KOTAR
NOVIGRADI
Carin
Podgraje
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Ostrovizza
Stancouzi
Bribir
Ruppe
I. Vissovaz
Bribirschiza
Morpolazza
Pristeg
Ceragne
Vrana
Radassinovich
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Iujova torre
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TRAV
I. Bua
Cicolla f.
Dernish
Mirilovich
Verba
Cettina f.
Otal
Verlica
Vrilo Cettine
Top
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KNIN
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TO THE

RIGHT HONOURABLE THE EARL OF BUTE.

Of the Country of ZARA *in* DALMATIA.

YOUR Lordſhip did me the honour, a few years ago, graciouſly to accept of the tribute of my obſervations on the Iſlands of Cherſo, and Oſſero, on the borders of Dalmatia, which were not only firſt encouraged by your Lordſhip, but executed wholly under your generous patronage; I therefore flatter myſelf, that you will alſo condeſcend, with equal benignity, to accept of a ſmall tributary ſhare of my more general obſervations on the natural hiſtory of Dalmatia, which I have ſince undertaken there, under the patronage of noble Mecenati. Should theſe obſervations meet with your Lordſhip's approbation, my ambition will be fully gratified; as I know you are not leſs a proficient, in all the learned and uſeful ſciences, than you are a protector of them.

The extent of the Venetian territory in Dalmatia is too great, and the number of iſlands in the neighbouring ſea too conſidera-

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ble, for naturaliſts to expect any thing complete, from ſuch ſhort peregrinations. Men however are not wanting, who, tranſported by the ardour of youth, and the perſuaſion of being able to impoſe on the literary world, undertake to deſcribe in a few months, the botanical, animal, and foſſil hiſtory of the largeſt provinces: but he who is uſed to conſider, with philoſophic leiſure, the immence variety of things, is ſoon convinced, that the life of a man is not ſufficient (whatever aſſiſtance he may have met with) to compoſe a complete natural hiſtory of the ſmalleſt iſland, or diſtrict. A ſimple mineral water, or ſubterraneous cavern, or the courſe of a river, with its confluent ſtreams, requires much attention and conſideration, before one can pretend to treat of either of them expreſſly. And how can it be otherwiſe, if the fiſhes in the ſmalleſt creek of the ſea, nay one of them alone, a plant, or an inſect, if one is deſirous to know perfectly its properties and transformations, is enough to employ an attentive naturaliſt, for months, and ſometimes years, before he can acquire a competent knowledge of it? And who would not become cautious and diffident, on reflecting, that all that Swammerdam, Reaumur, Maraldi, and ſo many other celebrated men, have obſerved concerning bees, proves to be inaccurate, ſince the late obſervations of M. Schirach? Your Lordſhip, who is well acquainted with the difficulties, and vaſt extent of the field, in which the naturaliſt labours, will, I am convinced, receive theſe obſervations, that I have been able to make, with the candour that is natural to great, and enlightened minds; for thoſe who are ignorant, or know little of this ſcience, are commonly the moſt ſevere, and illiberal in their accuſations. Donati, after having ſpent ſeveral years in travelling in Dalmatia, had not the courage to publiſh any more than an eſſay, on the natural hiſtory of the Adriatick. And the great Haller, after long reſearches among the Alps of Switzerland,

gave

gave an eminent example of his modeſty, by publiſhing, *an attempt towards a catalogue of the Helvetic plants.* What then can be expected from me, whoſe experience and wiſdom are trifling, in compariſon with thoſe great and diſtinguiſhed characters.

Of the Iſlands ULBO, *and* SELVE.

Having paſſed that part of the gulph, which, by our mariners, and geographers, is known by the name of *Quarnaro*, I firſt landed on two iſlands, called Ulbo, and Selve, that are contiguous to each other, and between which, the ſmall veſſels bound from Venice to Zara, commonly paſs. Theſe are probably the ſame that Conſtantine Porphyrogenitus* numbered among the uninhabited iſles, under the names, mutilated according to his cuſtom, of Alaep, and Selbo. The convenience of their ſituation has drawn inhabitants to them in our days, and they are even cultivated beyond what their poor, and ungrateful ſoil deſerves; for the ground is ſo dry, and ſtony, that olives ſeldom come to any perfection; vines produce bad grapes; and corn ſucceeds ſtill worſe. The ſtone that moſt abounds, is a kind of hard, whitiſh marble, which, as your Lordſhip knows, is alſo found in a great quantity, among the higheſt mountains in Italy, particularly about Peperno, Terracina, and the royal Villa of Caſerta. I know not, if this kind of marble is found on the higher mountains of Triuli, having hitherto had no opportunity of viſiting that country; where alſo (as I have been told) there are but very few declared lovers of foſſil knowledge. The greateſt part of the Peninſula of Iſtria is however compoſed of it; and the ſame ſpecies abounds in the intermediate iſlands, appearing to be of contemperary

* *Conſt. Porph. de Themat. Ipm. Them. Dalm. c.* 29.

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rary origin, with that of the neighbouring littoral, and mediterranean mountains, in which are ſeen vaſt ſtrata of this marble, though often interrupted, and out of their natural poſition.

At Venice, this marble is particularly uſed in building; I think it agrees with the *calcareus ſolidus, particulis impalpabilibus Wallerii.* † The appearance of it is ſiliceous, particularly on being broken, when it flies, into concavo-convex ſplinters, like the common flint ſtone. Artificial acids are long in making any impreſſion on it, and nothing but the air, aſſiſted by the acid particles which it commonly carries along with it, is capable, in a long courſe of years, to render its ſurface rough, and ſo make viſible the ſmall triturated parts, of which it is compoſed. I collected ſome curious ſpecimens of the *oſtracites* on the low iſland of Ulbo, where the ſhells of the oyſters are in general found diſpoſed horizontally, one above another, and are neither calcined, nor petrified, notwithſtanding the ages they have lain there. They ſtill retain their natural brightneſs, and break in laminated ſcales, much in the ſame manner as thoſe taken freſh out of the ſea. But theſe ſhells are not the ſpoils of any inhabitants of our ſeas, which produce no ſpecies of oyſter whoſe ſhell is ſo long, or ſo deeply channelled: they ſeem to have been left there by that remote ocean, whoſe teſtaceous bodies formed the vaſt ſtrata of calcareous ſtone, which now compoſe the maſs of the Dalmatian iſles; ſmall and miſerable remains of ancient lands,

† *Calcareus ſolidus, particulis impalpabilibus, et indiſtinctis. Wall.* §. 41. 1.
Lapis calcareus particulis impalpabilibus. Cronſtedt. 7.
Calculus litoralis. Dioſcorid. Cæſalp. Encel.
Pierre a chaux compacte. Bomare. 105.

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lands, torn aſunder by rivers, corroded by ſubterraneous torrents, ſhattered by earthquakes, ſubverted by volcanos, and then overwhelmed by a new ſea. I have given to this aggregate the name of a calcareous ſtone, ſlatey, ſpatous alternately compoſed of broken marine ſubſtances, and of the before mentioned flat exotic foſſil oyſter. It is no uncommon thing, to meet with thick incruſtations, and ſometimes in large pieces, between the ſtrata of the ſtone, and in the ſmall cavities which are often found in it. Theſe reſemble identically the ſoft ſtalactetic marble, coloured, with variegated ſtreaks; known by our ſculptors by the name of alabaſter of Corfu.

I was not able to make any obſervations on the iſland of Selve; the ſtorm of wind, and rain, that forced me to take ſhelter on it, prevented even a ſhort excurſion. But it is probable, that the ſtones of this iſland do not differ from thoſe of Ulbo. The air of both iſlands is healthy; but the water of neither is good; they are moreover, on all ſides, expoſed to the winds; having no eminences to defend them. Selve, ſupplies many ſeamen, and is ſufficiently well provided with cattle.

Of the Iſland of ZAPUNTELLO.

Soon after I had ſailed from Selve, we were driven by the violence of the wind into a creek of the iſland or Zapuntello, which is but thinly inhabited, in proportion to its extent; having only three villages, from one of which it takes its name. This iſland is alſo called Melada, from another village; and there is no doubt but it is the *Meleta* mentioned by Porphyrogenitus * among the deſerts

* Coſt. Porph. l. cit.

deſerts of the ſea of Zara. Though I did not ſtay long there, yet I had an opportunity of obſerving ſome foſſil curioſities. I collected large pieces of a hard kind of ſtone, full of an unknown ſpecies of foſſil, belonging to the claſs of the *Ortocerati*, concerning which, I ſhall have occaſion to ſpeak more at large hereafter. But the moſt curious foſſil production of Zapuntello, is, a calcareous ſtone, very white, and almoſt as hard as marble, although, when broken, it appears farinaceous. Impreſſions of ſtones, wood, and of marine inſects, are ſeen in it. It ſhould ſeem, that during the concretion of this ſtone, from a kind of muddy ſubſtance, various kinds of Madrepores, and other Corallines, remained buried in it; though the acid, which diſſolved them, left their places empty, and tinged only with a kind of ruſty ochre; yet veſtiges enough remain, to aſcertain the bodies that pre-exiſted in the reſpective hollows. The ſea ſand in the creek, is full of microſcopic ſhells, of the *nautili*, and *cornua ammonis* kind, the figures of which, may be ſeen in the work intitled *De conchis minus notis*, of the celebrated Janus Plancus, † who had the merit of firſt diſcovering them, in the ſands on our coaſt. It would have given me pleaſure to have added an appendix to the acute obſervations of Plancus, by examining theſe little animals juſt taken out of the ſea, in the aquatick microſcope, as ſomething more probably might have been diſcovered about the particular ſtructure of this kind of *concha polithalamia*, called *corna ammonis*; for it is no longer to be doubted, that the only difference, between the maritime ones obſerved by the naturaliſts of Rimini, and thoſe foſſils of the neighbouring mountains, conſiſts almoſt intirely in the variety of the ſize and proportion.

Of

† Jani Planci ariminenſis, &c. de conchis minus notis. Plate I.

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A Country Woman of the Canal of Zara. Jac. Leonardis sculp.

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Of the Iſland of UGLIAN.

The firſt place, where I found myſelf at leiſure to make obſervations, was in the iſland Uglian, in the channel of Zara. I ſtaid there eight days; ſometimes examining the ſtony hills, and wandering but to little purpoſe, along the ſea coaſt, in ſearch of ſomething new; and ſometimes employing myſelf in learning a few words of the language, which now became neceſſary to me. The civility of thoſe poor iſlanders, rendered that ſolitude, pleaſing and agreeable to me, to which I had been led by a certain melancholy, now become habitual. I wiſhed to remain a long time there, but the diſagreeable circumſtance of being ill accommodated, obliged me to abandon that thought. The iſland is fertile enough, and capable of producing any thing, when the inhabitants make a proper choice of the ſoil and ſituation, agreeable to the reſpective ſeeds and plants. But it is a common misfortune to almoſt all the iſlands of the Illyrian Archipelago, to want good water, which the poor inhabitants often feel the bad effects of, in the hot ſeaſon, their crops being frequently deſtroyed, and themſelves obliged to bring their water from diſtant places, or to uſe what they have, in a kind of pits, ill ſuited for the purpoſe of preſerving it ſweet.

The dreſs of the iſlanders, under the juriſdiction of Zara, is very unlike that of our peaſants, reſembling rather that which is uſed by the common people, on the neighbouring continent. The women, however, and particularly the young ones, have a kind of dreſs, with ornaments very prettily embroidered. I thought they merited a drawing. (Plate 1.)

Near the maritime little village of Cale, on this iſland of Uglian, Count Therry reſolved to combat with nature, and to vanquiſh her; for, in ſpite of the rocky nature of the hill, he has actually

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actually made a kitchen garden upon it after the Italian method. The inſects indeed are perpetually at war with him; and notwithſtanding all his attention, frequently deſtroy the fruits of his labour. Snails alſo unite themſelves to theſe winged enemies, and I never ſaw ſuch prodigious numbers any where elſe. Fulvius Hirpinus, who firſt made nurſeries for ſnails, in the Campania Targuinienſis, would have found enough to ſatisfy him. I know not, if on this iſland, they grow to the very large ſize that Pliny ſays * the Illyrian ſnails did, but it is probable, that, if they were ſuffered to propagate, and live quietly, their bulk would correſpond with their fecundity.

On the quality of the ſtone that forms the Iſland of UGLIAN.

Various ſpecies of ſtone compoſe the maſs of Uglian, and the neighbouring iſlands; they may, however, be reduced principally to the four following. The loweſt ſtratum is a kind of marble, which contains an infinite number of extraneous bodies, of the *ceratites* kind, and cryſtallized in a white calcareous ſpar. Theſe bodies are not all of the ſame ſize, nor form, though they are conſtantly fiſtulous, and crooked. I have ſome ſpecimens, that correſpond to the deſcription of the *Helmintholitus Nautili Orthoceræ* of Linnæus. † This celebrated naturaliſt believes, that the marine original of this petrification, is *without doubt* an inhabitant of the bottom of the Baltic (from whence however it never was taken out alive, nor in its teſtaceous ſtate) being induced to think ſo, from having found it frequently in the marble called

* Plin. Lib. IX Cap. 56.

† Linn. Syſt. Nat. T. III. p. 162. ed. 1768. Habitat *ſine dubio in* abyſſo maris Balthici deperditus, petrificatus nobis frequentiſſimus in marmore ſtratario &c.

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called by him *ſtratario*, becauſe it is uſed in paving the roads in many provinces adjacent to that ſea. It ſhould ſeem, that this learned man had forgot the many ſpecies of exotic plants, marine bodies, and bones of terreſtrial animals, which are frequently found petrified in the bowels of the mountains of Europe, though never ſeen in their natural ſtate in our ſeas. I can venture to affirm, that the *Orthoceratites* live not in the Adriatick, though they are found petrified in marble, on the iſlands, and on the continent of Dalmatia. The coral fiſhers have ſcoured the bottom ſufficiently, to convince us, that no ſpecies of living creatures, much propagated, inhabite there at preſent, but whoſe individuals are well known to us. I have had drawings made of ſeveral pieces of this marble, in which the *Orthoceratites* appear prominent, and I will deſcribe them more minutely, when I ſpeak of the little iſland, on which I collected the moſt intereſting ſpecimens. Your Lordſhip will allow, that an aſſertion *procul dubio*, not ſupported by any fact, but, on the contrary, poſitively contradicted, may permit me, to take ſome liberty with this celebrated author, whoſe talents, and merit, however, are, by all lovers of natural hiſtory, deſervedly held in the higheſt veneration.

The ſecond ſpecies of Uglian marble, is analogous to the foſſil oyſter ſtone of Ulbo, and contains great quantities of *Oſtracites* well preſerved, and very diſtinguiſhable, but not eaſily ſeparated from the ſubſtance of the ſtone in which they lie; they are particularly viſible on the ſurface of ſuch pieces of marble, as have been long expoſed to the action of the air, and rain. Not only the firſt ſpecies, compoſed of *Orthoceratite*, but alſo the other, containing the foſſil oyſters, is of a white colour; but they are both rough, or of a coarſe grain, and untractable to the

chiſel, unleſs for ordinary works. The third ſort is much better calculated for workmanſhip, being very compact and ſolid, and though it equally contains marine bodies, yet they are ſo intimately incorporated with the ſtony ſubſtance, that they cannot by any means be ſeparated from it, making as it were one uniform maſs.

The tops of the hills of Uglian, are of a compact coliareous ſtone, of impalpable parts; a ſort of marble, Iſtrian, Dalmatian, or Apennine, which ever you pleaſe to call it; for the ſame ſubſtance deſcribed above, as prevailing in Ulbo, extends itſelf over all the heights of theſe provinces, as well as of Italy, interchangeably with the *breccia*. Donati, deſcribing it with leſs exactneſs than Linnæus, calls it, *opaque marble, of an uniform grain, and whitiſh colour*; and believed it was the *marmor Tragurienſe* of the ancients; though I know not upon what foundation.

I have ſeen on this iſland, for the firſt time, a curious ſpecies of kermes (if ſo it may be called, or if it is not rather a new genus) growing upon a fig-tree; and not remembering to have met with a deſcription or figure of it by any author, among the claſſical books on inſects, I got a drawing of it. This inſect differs very much from the *faux-puceron* deſcribed by Reaumur, and which I have never been able to ſee on the fig-trees of Dalmatia. Plate I. fig. A, is the little fig branch to which the galls adhere, if ſo I may name theſe very ſingular Chryſalis. Nor is this one of the fulleſt, for ſome trees have their leſſer branches ſo entirely covered, that they look like the confluent ſmall-pox, full of puſtules, one upon another. The figure B ſhews the gall grown ſomewhat larger; and it is certainly one of the

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the moſt curious productions, that is to be met with in this branch of natural hiſtory. Its cupola is ſtriated, but ſo minutely, that it loſes nothing of its ſmoothneſs, when obſerved only by the naked eye. The top of the cupola is conſtantly adorned with a *papilla*, not unlike thoſe in which the ſpines of the Echinus are fixed. The lower part, about the baſe, is ſurrounded by eight other *papillæ*, very like that above, and which correſpond to as many cramps, or holders, by which the under-parts of the little animal are faſtned to the bark. The ſize of theſe galls is unequal; ſome remain ſmall, and ſtunted; probably becauſe the animals, from which they proceed, faſtened themſelves too near others, who had already ſucked out the milk from the bark, from whence their nouriſhment and growth ſeem to be derived. There is no doubt, but that the milky humour of the fig-tree, elaborated through the veſſels of theſe little animals, occaſions the daily growth of the galls; which is the more evident, becauſe, if, by any external accident, any part is torn away, it is ſoon reproduced, as is obſerved of the ſhells of ſnails, &c. This particularity alone appears ſufficient to conſtitute a new genus.* The ſubſtance of this animal's ſhell, or cover, is a kind of wax, or lac, greatly ana-

* Several writers of reputation, among whom are Garzia ab Horto, Bontius, Montanus, Amatus, Luſitanus, and Tavernier, have aſſerted, that the lac of China, Japan, and Pegu, is extracted by winged ants, from a tree, which they call *Tanoſki*, or *Namra*. And this may be partly, if not altogether true, as a ſmaller and weaker inſect can extract a gum from the fig-tree. Cleyer, who was at Nangaſaki, in 1685, wrote to Mentzel, that this was but a fable, and that the lac was extracted by inciſion only; yet perhaps he had not been able to inform himſelf ſufficiently. V. *Garziæ ab Horto* hiſt. arom. l. 1. c. 8. *Jacobi Bontii* Medic. Ind. *Arnoldi Montani* Hiſt. Legat. Batav. Soc. Ind. Orient. ad Imp. Japan. *Amati Luſitani* in Dioſcorid. l. 1. *Tavernier*. P. 2. l. 2.

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analogous to the dried milk of the tree, on which it has its birth and increaſe. The parts of the animal could not be diſtinguiſhed, when I obſerved it the firſt time on the iſland of Uglian, and collected a good quantity. Afterwards, on examining the galls, I found, in each of them, a ſlimy ſubſtance, of a bloody colour, which tinged the fingers with a very beautiful red. I carried a parcel to Zara, in the month of June, and from a ſmall part of it only, I extracted, by ſimple decoction, a tenacious matter, of a pale red colour: the water, in which the galls were boiled, remained tinged with a yellowiſh red.

Having kept by me ſeveral of theſe galls, carefully collected, in order to protect the animals concealed within them, I accidently let them remain in a box, for ſeveral days, without looking at them; and on opening it, I was ſurprized to obſerve innumerable red granules, which, when examined by the microſcope, appeared plainly to be eggs, of an oblong form, much reſembling the oval bags of ſilk-worms. No veſtiges of any worm, or fly appeared in the box, and had there been any, they could not poſſibly have eſcaped, as it was nicely ſcrewed together. I laid it by again, and opening it five or ſix days after, I ſaw an innumerable ſwarm of little red animals, which, at firſt, appeared to have white wings; but, on examining them with the microſcope, I plainly diſcovered them to be *apteri*, with ſix feet, and not yet entirely free from the covering of the egg, which they carried on their back, reſembling wings raiſed up, and united. I ſhut them up in their priſon again, and in a few days they died of hunger. The fig-trees about Zara, not being peopled with theſe inſects, I was therefore obliged to renounce my deſire of examing them further.

Some

Some time after, however, I found them again on the iſland of Brazza, and was not a little embaraſſed about a worm, which was lodged in ſeveral of the galls, or chryſalis; but, on further conſideration, I am inclined to believe this worm is rather an uſurper, than a natural inhabitant of the gall itſelf; and I was the more confirmed in this opinion, on obſerving many of the red inſects, wandering about upon the branches, and ſoon after becoming almoſt inſenſible and adherent to the bark. I propoſe to examine them again attentively, if I light upon them in a proper ſeaſon; and am the more deſirous of doing it, becauſe theſe red eggs bear a near reſemblance to the kermes uſed in dying. I am alſo not without hopes, that, by collecting, and laying them in a heap, before the maggots have life, or killing them immediately after, a paſte may be had of ſome uſe. *Quinqueranus*, wrote a hundred and eighty years ago, ſome particulars relative to the kermes, which ſeem to agree very well with this new *grain* of the fig-tree. *

This malady attending the fig-trees, is neither very ancient, nor has it been conſtantly experienced in the iſlands, and on the ſea coſt of Dalmatia; for when the cold in winter, happens to be more intenſe than uſual, the country is almoſt totally freed, for that year from theſe troubleſome inſects, which certainly

* *Has autem baccas quando vident in vermiculos abire velle illos aceto, vel aqua frigidiſſima ex puteo adſpergunt, et in loco tepido ſupra fornacem, ſeu in ſole lente exſiccant, donec moriantur. Aliquando animalcula iſta a veſiculis relictis ſegregant, et extremitatibus digitorum leniter comprehendendo in pilam, ſeu maſſam rotundam efformant, quæ multo pretioſior eſt granis, et ideo majori pretio a mercatoribus emitur.* Quinqueran. ap. Ceſtonium in Ep. MSS. ad Valliſnerium ſeniorem. Here it ought to be remarked, that in thoſe times, the words *vermis* and *vermiculus*, were frequently uſed to denote any inſect whatever.

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tainly do great damage to the province, where figs form a conſiderable article of commerce. The trees covered with theſe inſects, bear inſipid, and diſagreeable fruit; not only the leaves, and branches, but the figs themſelves are cloathed with this new generation, which becomes immoveable, and is actually buried under its coat of lac.

The trees having ſuffered this peſt, for two or three years ſucceſſively, the bark grows black, and rotten, and falls off from the branches, which alſo rot, in their turn, appearing ſqualid, even in the end of ſpring; and at length, this rottenneſs diffuſing itſelf from the extremities, to the principal branches, the trunk itſelf decays, and dies.

Of the City of ZARA.

Zara, called Jadera by the Latins, and Diadora in the later times, was once the capital of Liburnia, that is, of the great peninſula, which runs out into the ſea, between the two rivers Tedanius, and Titius; now known by the names of Zermagna, and Kerka; and ſince the fall of the Roman Empire, it is become the capital of a more extenſive province. Time, that has ſcarcely left any traces of the greateſt part of the Liburnian cities, has nevertheleſs ſpared this, which actually enjoys all the ſplendor, that a provincial city can well expect; and ſeems rather to have gained, than loſt, by the courſe of ages. The inhabitants of Zara, are as civilized as any of the cities of Italy; and in every age, it has produced men diſtinguiſhed for learning. *Federico Griſogono*, who lived about the middle of the ſixteenth century, publiſhed a diſcourſe on the cauſes of the flux, and reflux of the ſea, which he attributed to the preſſion of the ſun, and moon. *Gian-Paolo Gallucci* of Salo, inſerted the whole of this

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this ſmall treatiſe in his work, entitled, *Theatrum mundi et temporis*, tranſcribing it from the medical book in which the author had placed it. *Simon Gliubavaz*, a gentleman of Zara, left many valuable papers, tending to illuſtrate his country, and the ample territory which ſurrounds it. There is alſo a ſmall manuſcript treatiſe of that learned man, which explains all the ancient inſcriptions diſcovered at Zara, to the middle of the ſeventeenth century. Amongſt the preſent living ornaments of this capital, Count *Gregorio Stratico*, and Signor *Domenico Balio*, deſerve to be particularly mentioned; the firſt, for politeneſs, and other amiable qualities; and the other, for his modeſty and reſerve, though he is courteous to ſtrangers, and qualified, as well as diſpoſed, to be uſeful to them. Few only, and miſerable remains of the Roman fabricks, which once adorned it, are now to be ſeen; having been deſtroyed, chiefly to build the modern fortifications. Your Lordſhip will eaſily find in the claſſical collections, the many inſcriptions, that were preſerved here, till the beginning of the preſent age; and which ſhew, that this city, and colony, was particularly favoured by many of the Roman Emperors, and chiefly by Auguſtus, and the good Trajan. Hence the firſt merited the title of Father of the Jadertine Colony; of which ſufficient teſtimony ſtill remains, in one of the ſaid inſcriptions. The ſecond cauſed an aqueduct to be built, or at leaſt reſtored, which brought water to the city from a great diſtance, as alſo appears by the fragment of another inſcription, ſtill exiſting in the city.

Dr. *Antonio Danieli*, phyſician at Zara, received me with great hoſpitality into his elegant houſe, which is adorned with many pieces of ancient ſculpture. Among others, there are four valuable coloſſal ſtatues of ſaline marble, that were removed

moved from the ruins of the neighbouring city of Nona, and tranſported to Zara, at the expence of this zealous lover of antiquity. He alſo poſſeſſes ſeveral ancient inſcriptions on ſtone, brought from various parts of Dalmatia, among which, is that valuable one mentioned by *Spon*, as being then in the houſe of Signori Tommaſoni; it lay hid ever ſince the year 1675, under a covering of plaſter, and being diſcovered by Dr. Danieli, was by him publiſhed, in conſequence of the mention made of it by the French traveller. *

I further obſerved, among the ſaid inſcriptions, three Greek tables, which were brought from the iſland of Liſſa, and ſeem to belong to ſome *Pſephiſma*, being fragments of ſubſcriptions of ſenators. My good friend and hoſt, has likewiſe a large collection of ancient Roman coins, beſides many Greek ones, in excellent preſervation.

I ſaw at Zara, an hermaphrodite foal, ſingularized by that monſtrous marring of the ſexual parts, well known to anatomiſts, and commonly called hermaphroditiſm. If this animal had been produced at Paris, the learned would probably have determined its place among the Stallions, as a male, according to the curious deciſion, which obliged the *Drouart* to wear the dreſs of a man becauſe *the virile ſex* predominated in her. † This beaſt

* Spon voiages, vol. I. the inſcription is at the end of the 3d vol.

† Michel Anne Drouart who was at Venice in 1769, and expoſed to view for money, was particularly examined by the celebrated profeſſor Caldani, of the univerſity of Padoua, and underſtood to be a monſtrous loathſome woman; although M. Morand, the King of France's ſurgeon, and a member of the academy of ſciences, had declared her an hermaphrodite, in whom the virile ſex predominated. And in conſequence of this curious deciſion, the archiepiſcopal chancery,

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beaſt (alſo reſembling the *Drouart* in the organs of generation) though of a good ſize, and well made, was ſold at a very low price, by a Morlacco, in whoſe houſe it was foaled; to avert the bad omen, which that ſuperſtitious nation draws from the birth, or appearance of monſters.

The ſea gains ground on the City of Zara continually; and if this was not ſufficiently confirmed by the high tides, that overflow ſeveral places, which, when built, were certainly intended to be out of their reach; the old pavements of the ſtreets, which actually lie below the ordinary level of the ſea, are certainly ſufficient proofs of it, as well as the many noble fabricks, diſcovered only a few years ago, in cleaning, and deepening that part of the harbour, which they call the *Mandrauhis*. The various circumſtances that occur along the coaſts of the Adriatick, tending to prove the gradual elevation of the waters, leave us no room to doubt the truth of it. The ſea conſtantly pervades on this coaſt, notwithſtanding the partial increaſe of the land, by the quantities of mud and ſand, depoſed at the mouths of rivers: And whether the coaſts of our gulph be marſhy, ſandy, mountainous, or ſtony, there are always found ruins of ancient fabrics now ſubmerſed by the ſea: Proofs are alſo daily diſcovered, that its level actually riſes. Whether this proceeds from the quantity of ſtones, and earth waſhed down into it from the mountains, or from whatever other cauſe, may be a matter of conjecture to the curious. Thoſe who have made repeated obſervations on this ſubject, cannot therefore eaſily admit the opinion

chancery ordered her, by a preciſe decree, to dreſs in man's cloaths. Any one may read M. Morand's memorial, among thoſe of the academy, and be ſcandalized by it.

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(once in vogue) of Browallius, and others, that the apparent riſe of the waters, is to be deduced from the ſubſidence of the land. The Venetians are particularly enabled to judge of the reaſonableneſs of this ſyſtem, by comparing and examining the changes in and about their city.

Of the City and Diſtrict of NONA.

The ruins of Nona, which ought to furniſh abundant materials, to gratify the curioſity of antiquaries, are ſo buried, by repeated devaſtations, to which that unhappy city has been expoſed, that rarely any veſtige of them appears above ground. I went thither, in hopes of finding ſomething worthy of notice, but was diſappointed. Nothing is to be ſeen, that indicates the grandeur of the Roman times; neither are there any remains of barbarous magnificence, to put one in mind of the ages in which the kings of the Croat Slavi, had their reſidence there. It lies on a ſmall iſland, ſurrounded by a harbour, which, in former times, was capable of receiving large ſhips; but is now become a fetid pool, by means of a little muddy river that falls into it, after a courſe of about ſix miles, thro' the rich abandoned fields of that diſtrict. The ancient inhabitants, turned this water into an other channel, and made it run through the valley of Draſnich, into the ſea; and the remains of the bank raiſed by them for that purpoſe, are ſtill to be ſeen. Notwithſtanding, however, the depopulation of this diſtrict, and the dreary ſituation of Nona in particular, the new inhabitants have not loſt courage; and animated by the privileges granted to them by this moſt ſerene republick, are endeavouring to bring the population and agriculture once more into a flouriſhing ſtate. Proper drains for the water, would not only render

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der that rich territory habitable, but moreover very fertile; and the brackiſh marſh, that ſurrounds the walls of Nona, is well calculated to ſupply a conſiderable quantity of fiſh, eſpecially eels. The government, generouſly granted the inveſtiture to private perſons, who already draw no inconſiderable advantage from the fiſhing; and did they but adopt better methods, they might every year, ſalt many thouſands of eels, which would greatly anſwer our internal commerce, and ſave, at leaſt, a part of the money, that goes out of the country for foreign ſalt fiſh. To the left of the city of Nona, the walls of ſome ancient ruinous buildings appear; which probably in ancient times, were ſituated on the main land, though now ſurrounded by water. The ſea forms a narrow channel in this place, which is eaſily fordable, and, at low water, the ſmalleſt boat can ſcarcely paſs. The neighbouring village, corruptly called by the Morlauhi, its inhabitants, *Privlaca*, and by thoſe of Zara, *Brevilacqua*, ſeems to have taken its name from the ford, which the Latins uſed to call *brevia aquæ*. This divides the diſtrict of Nona, from the contiguous iſland of *Puntadura*. The coaſt of *Brevilacqua* is very high, and cut perpendicularly in ſuch a manner, as diſcovers very diſtinctly the various ſtrata of the ſubſtance, whereof they are compoſed. Theſe Strata, are moſtly ſandy or gravelly, and ſeem manifeſtly the depoſitions of ſome ancient river, which is now no longer ſeen. Some of theſe Strata, and eſpecially the loweſt, by the filtration of the water, are hardened into ſtone, forming pieces of trunks as it were, of *Oſteocolla*, perpendicularly ranged together. In ſome parts of this coaſt, juſt above the ſurface of the water, the marble appears, that forms the baſe of the fluviatile ſtrata. The ſame kind of marble is alſo ſeen, further within land, and probably formed prominences, before the lower lands were filled up, and levelled by

by the turbid depoſitions of the waters. The *lapides lenticulares*, and other ſimilar foſſils are alſo ſeen, intimately united with the maſs of marble. In going from Zara to Nona on horſeback, I obſerved a curious diſpoſition of the ſoil, which the ſhrubs, wherewith that tract of country is naturally covered, for thirteen miles in length, ſeem in great meaſure, to have made. From Zara, to the village of Coſſino, the fields are ſtony, yet capable of bearing vines, and corn; but they are laid out in a meadow ground, and are very ill kept. A mile beyond Coſſino, there is a wood of the *Sabina fruticoſa*, called in Illyrian *gluhi ſmrich*, or deaf Juniper; no other ſhrub is to be ſeen. After a mile of the Sabina, begin the *Lentici*, which occupy but a ſhort ſpace: then the *Phylirea*, *Erica*, *Arbutus*, and ſmaller *Ilex*, live in common ſociety together. To theſe ſucceed the Junipers; and laſtly, near Nona, the *Paliurus*, called *Draca* by the inhabitants, reigns alone.* I could not perceive any remarkable difference, in the reſpective ſoils occupied by theſe various families of ſhrubs. The *Ilex cocci glandifera*, of the Botaniſts, is very frequent along the coaſt; and in the iſlands of Dalmatia; but, notwithſtanding all the diligence I uſed, I could not find the Kermes. It would be a laudable experiment, to endeavonr to ſettle here, the race of this precious inſect, getting it from the Levant Iſlands, where it is found naturally. There is the greateſt reaſon to hope, that, in a ſhort time, it might become a produce of conſequence to Dalmatia.

Of

* From the Greek δρεπτω, pungo. Many other botanic words in the Illyrian language, have a near affinity to the Greek, ſuch as *trava*, herb graſs, δρεβης *dervo*, wood, δρυς.

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Of the Diſtrict of ZARA.

The large province, which in our maps is called the Territory of Zara, ſtill retains its ancient name of *Kotar*, which the inhabitants of the country conſtantly give it. This tract of country is generally reckoned unhealthy in the ſummer: but I have viſited a good part of it with impunity, and ſhould have extended my obſervations further, if, through the heat, and fatigue, my drafsman had not contracted an obſtinate agueiſh fever. This diſappointment alſo prevented my bringing into Italy, a much greater number of drawings, and other curioſities. The line of my travels, through the territory of Zara, was by the towns of San. Filippo and Giacomo, Biograd (called alſo Zaravecchia) and Pacoſtiane, on the coaſt; Vrana, on the lake of the ſame name, Ceragne, Priſtegh, Benwvaz, Peruſſich, Podgraie, Coſlovaz, Stancovzi, Oſttrovizza, Bribir, Morpolazza, Bagnevaz, and Radaſſinovich within land.

TRAJAN'S AQUEDUCT.

I ſaw at San. Filippo and Giacomo, the veſtiges of an Aqueduct, either built, or repaired, by the Emperor Trajan; and followed the tract of theſe veſtiges, for a conſiderable way, on either ſide. Hence I can poſitively affirm, that the Dalmatian hiſtorians, particularly, Simon Gliubavaz, whoſe manuſcript lies before me, and Giavanni Lucio, in his celebrated work, concerning the Kingdom of Dalmatia, and Croatia, were groſsly miſtaken, when they wrote, that Trajan brought water to Zara, from the river Fizio, or Kerka, taking it from the caſcade of Scardona, called in the language of the country, *Skradincki ſlap*;

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dincki-ſlap;* in the neighbourhood of which, ſome trifling ruins of aqueducts are ſtill to be ſeen. But they are ſurely excuſable, if, through eagerneſs to do honour to their native country, they have aſcribed to Trajan, a merit thirty times greater than he really had, in either building, or repairing this aqueduct; as they were certainly unacquainted with the country that lies between *Skradincki-ſlap*, and the ſea coaſt of Zara, for the Turks were in poſſeſſion of it, when they wrote. The remains of the aqueduct are firſt ſeen, at a little diſtance from the walls of Zara, along the ſea ſide, towards the village of San. Caſſano; then through the wood of Tuſtiza, as far as the Torrette, where they ſerve as a foot-path to travellers; and laſtly at San. Filippo and Giacomo; and further on, at Zaravecchia, where their traces are loſt, but ſeem to have been directed to the neighbouring river of Kakma, which is diſtant from *Skradincki-ſlap*, thirty miles at leaſt, in a right line. The mountains that riſe between that place, and Zaravecchia, are much higher than the caſcade of the river, and therefore it would have been impoſſible to convey water from thence. They are alſo divided by large valleys, ſo that there ought to appear frequent remains of arches, ſuppoſing the waters of the Tizio could have been brought by ſuch a road: Now there is not a ſingle veſtige of an aqueduct to be ſeen, within the compaſs of thirty miles, that can juſtify this inconſiderate aſſertion of Lucio and Gliubavaz, and the vulgar opinion. The inſcription which I mentioned before, neither ſays, nor gives ground to gueſs from whence the water conveyed by Trajan was brought.

BIOGRAD.

* *Scardonicus lapſus.*

BIOGRAD, *or* ALBA MARITIMA.

Biograd, now a poor village on the ſea-ſide, known by us, and marked in the maps, by the name of Zaravecchia, given to it in the times of ignorance, was formerly a conſiderable city. The ſituation, diſtances, and ſome inſcriptions that have been found, ſeem to indicate, that *Blandona* was ſituated near this ſpot, but by no means, the ancient *Jadera*, as Cellarius imagined.* It is, however, certain, that in the middle times, this was a place of conſequence, by the frequent reſidence, and coronation of ſeveral kings of Croatia, and particularly of Creſimir, who founded a monaſtery there, in 1059. Biograd is called in the records of thoſe times, *Alba maritima* and by Porphyrogenitus, *Belgrado*, according to the cuſtom of the Slavi, who frequently called the cities, where their princes reſided, by that name. † It had the title of biſhoprick, which was tranſferred to Scardona, when the doge *Ordelafo Faliero* cauſed it to be demoliſhed, in the heat of the war with the Hungarians. From theſe ruins, in the courſe of years, a village aroſe, which became peopled by a ſet of men, who making rapine and violence their buſineſs, merited the indignation of government, and it was levelled with the ground, in the laſt age. It is now inhabited

* *Poſtquam Jadera eſt*, Ἰαδερα κολωνια *Ptolomeo*, *et Plinio Colonia Jadera*, *memorata etiam Mel. lib.* 2. *c.* 3. *Hodie vocatur locus Zara Vecchia*, *ultra Zaram Novam*, *viſendus cum ruderibus noſtræ Jaderæ*. Cellar. Notil. Orb. Antiqui. l. 2. c. 8.

† Bielograd, or Belograd, or Biograd, ſignifies *white city*. *Bonfinius* Dec. 1. lib. vi. mentions Belgrado, among the maritime cities of Dalmatia, deſtroyed by Attila; though it ſhould ſeem, that before the irruption of the Huns, the city ought not to be called by the name it bore in after ages. But if it actually bore that name, it would become a new proof of the antiquity of the Sclavonian language in Illyrium.

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inhabited by a few poor people; though it has a large, and ſecure harbour, on the banks of which I collected ſome ſand, full of microſcopic ſhells. The ſoil in that neighbourhood, along the ſhore, is ſtony, but not bad; the ſtones are of the marble kind. Without the harbour of Biograd, there is a knot of iſlands, which uſed to ſerve as a place of refuge to the inhabitants of the adjoining coaſt, during the incurſions of the Turks.

Not far from Biograd, is Pacoſtiane, a poor place, ſituated on the iſthmus, which divides the ſea, from the lake of Vrana. Its few unhealthy inhabitants, feel the effects of this neighbourhood; for not being able to cultivate their own ungrateful littoral ſoil, they are induced to paſs over the marſh in little boats, to avail themſelves of the more fertile banks, on the oppoſite ſide of the lake, where the air is remarkably bad. The common food of theſe people, is the fiſh of the lake, and particularly eels, which they eat at all times, even in the ſeaſon when they are very unwholeſome. They uſe a ſingular method of catching them, in their ſeaſon of propagation, when the eels crowd together in multitudes: two men, each holding the end of a thick cord, wade along in the moſt ſhallow parts of the lake, and ſtriking them with the rope, kill a number, and diſperſe the reſt; they then collect the dead, and eat them.

The Caſtle of VRANA.

Vrana, which gives name to the lake, and is built on the extremity of it, towards the North, was an important place in former times, and belonged to the Templars. It was the reſidence of a Grand Prior, whoſe power encreaſed to ſuch a degree, that

that it ſometimes preponderated even in the affairs of the kingdom. Gianco of Poliſna, one of thoſe Grand Priors, in 1385, puſhed his ſacrilegious temerity ſo far, as to make his own Sovereign Elizabeth, widow of Lewis, King of Hungary, and her daughter Mary, his priſoners; neither did this ſatisfy him, for he cauſed the mother to be drowned in a river. In the beginning of the ſame century, Philip the Bel, though he could not make the Templars in France confeſs themſelves guilty of any criminal offence, nevertheleſs exterminated them by fire and ſword; while their ſucceſſors in Hungary and Dalmatia, convicted of the before-mentioned execrable crime, ſuffered, in a manner, no puniſhment at all; the revenge, that Sigiſmund, huſband of Queen Mary, choſe to take, being merely confined to the perſon of the Grand Prior.

This caſtle, which at the time of its foundation, was named Brana, or Vrana, by way of dignity, is now a frightful heap of ruins, reduced to that ſtate by the Venetians. Some writers have thought that Blandona was anciently ſeated there; but no veſtige of Roman antiquity is to be ſeen about theſe walls, and ruined, uninhabited towers. I ſearched with great diligence, among the ſtones, for inſcriptions, but in vain; and was happy at laſt to get from among them, without any accident.

The *Han*, that ſtands near theſe ancient walls, is well worthy of obſervation, although it is alſo now in a ruinous ſtate, being abandoned to the barbarity of the Morlauhi, who inhabit the neigbouring lands, and carry off whatever materials ſuit them, to be employed in their wretched cottages. The foundation of Hans, or Caravanſeras, do great honour to the Turkiſh nation, and they are very numerous throughout that Empire.

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This near Vrana, has been raiſed at a conſiderable expence the front of it is about 150 feet, and its depth 175 : it is all built of marble, well poliſhed, and connected; and the pieces ſeem to have been brought thither, from the ruins of ſome ancient Roman fabrick; at leaſt, on examing them, there is reaſon to think ſo. The body of the Han is divided into two large courts, ſurrounded by neat decorated chambers, and well contrived galleries: the architecture of the gates, is in a bad Turkiſh taſte, inclining to the Gothick. A part of the walls, and floors of this building, have been demoliſhed through a fooliſh avidity in ſearch for treaſures.

The name of Vrana is now transferred to a wretched village, that ſtands about a mile from the ruins of the caſtle, in the very place where an eminent Turk of the laſt age, called Hali-Beg, had his gardens; and the ſqualid habitation of the Curate of the pariſh, ſtill goes by the name of Hali-Beg's gardens.

A manuſcript of Gliubavaz, now in my poſſeſſion, though belonging to the learned Count Stratico, of Zara, contains a deſcription of the water-works in theſe gardens, and of the then well cultivated adjacent fields. What changes ſince that period! the gardens of Hali-Beg are reduced to heaps of rubbiſh; and the waters that were formerly conducted by art, to adorn and refreſh them, now run in diſorderly ſtreams, mixing with many others, which, a hundred years ago, were alſo formed into artificial channels, and conveyed into the lake.

The lake of Vrana is more famous, and better known at Venice, than any other in Dalmatia, not only on account of its conſiderable extent, of twelve miles, but from a project formed by

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by a private perſon, and partly put in execution, to cut a paſſage, by which the water might be diſcharged into the ſea. The late celebrated mathematician *Zendrini*, was conſulted about the poſſibility of ſuch a drain, but not having been on the ſpot, and truſting to the levels taken by ſome unſkilful Engineer, he thought there was no other difficulty, but that of the expence, in cutting, to a conſiderable depth, an iſthmus of ſolid marble, for half a mile long. The projector was not diſcouraged by the expence, but on the contrary, animated by the clemency of the government, undertook, and actually made a kind of ſketch of the work, by opening a channel, which has ſince, however, remained imperfect and abandoned, theſe many years; and probably, will ere long, be filled up again. The intent of this outlet was to drain, and, if poſſible, render fit for cultivation, about ten thouſand acres of land which had hitherto been always covered with water.

I went to ſee this arduous undertaking for the firſt time, in company with the Lord Biſhop of Derry; and we ſoon found, that, whatever expence or labour could be beſtowed upon it, would prove in vain; the project being phyſically impoſſible, and illuſory. It is ſufficient to obſerve the ſea ſhore, to be convinced of this truth; for the water of the lake, making its way through the ſubterraneous diviſions of the marble ſtrata, actually runs into the ſea, of its own accord, during the time of low water, and is only hindered from taking this courſe, when the tide flows, or is on a level with the lake. It is evident, therefore, from this ſimple obſervation, that whatever paſſage could be opened, the waters of the lake would never diſcharge themſelves into the ſea, with any great, or permanent utility to the inundated lands; and that, ſuppoſing a ſuitable communication was opened,

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opened, the only conſequence would be, to render them ſubject to a more ſenſible alteration of the flux, and reflux of the ſea.

It is certain, that the gradual riſe of the level of our ſea (whether it proceeds from a depreſſion of the ground, as is the opinion of ſome, or whether it ought rather to be derived from ſome more univerſal cauſe, as I am apt to think) will always diminiſh the diſcharge of the waters, and conſequently enlarge the extent of the lake, though imperceptibly, from year to year; and in the ſpace of fifty years, the increaſe will appear very evident. The valuable papers of Gliubavaz ſhew, that the lake of Vrana was quite freſh till the year 1630; and it is the opinion of this writer, that certain ſubterraneous paſſages were opened by an earthquake, from whence proceeded a communication of waters, whereby alſo fiſhes found their way. But whoever has made any diligent obſervations along the ſhores, and weſt of the Adriatick, and knows the nature of the marble ſtrata in Maritime Dalmatia, muſt be ſenſible, that this change could hardly be derived from an accidental cauſe, ſuch as an earthquake, but from ſomething more durable and progreſſive, as the riſe of the level of the ſea; in which caſe, the undertaking before deſcribed, muſt appear ridiculous.

I do not, however, think it impoſſible, to recover many hundred acres from the inundation, which left to itſelf, will be daily ſpreading, and will reduce the beſt lands near the lake to a marſh, and, at the ſame time, render the air of the neighbourhood very unwholeſome. The method which I would propoſe is this: To confine to their ancient channel the waters of Smocovich, which, probably, were conveyed to the ſea. Alſo to reſtrain,

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ſtrain, within ſome bounds, thoſe which deſcend from the hills, near the village of Vrana; I mean, the ſtream of Scorobich, and the larger water of Biba, both which run in the ſame direction. It would likewiſe be expedient to turn the waters of Ricina, and Pecchina, a long the ſkirts of the valley, inſtead of ſuffering them to take their preſent diſorderly courſe into the lake, and ſo producing a real evil, when they might be uſefully employed in watering the circumjacent fields, that are parched by heat. It would be further neceſſary, to cut deep trenches and ditches, that the water may have ſome courſe through the marſhes; and to raiſe banks, where needful, to defend the lower grounds. This is the true and only way to draw advantage from theſe plains, now under water; and to render the paſſage, already cut, perhaps, not altogether uſeleſs; for at preſent, it ſerves no other purpoſe, but to facilitate a little the diſcharge of the water after immoderate falls of rain.

After all, in whatever ſtate this lake is, the greateſt advantage that can be drawn from it is by fiſhing. Eels, which are found there in vaſt quanties, and are at preſent left to the aukward method of theſe fiſhermen, would ſupply our internal commerce with a conſiderable number of barrels, if they were ſkilfully caught and ſecured in *Lavorieri*, * and from thence taken out, and ſalted, or pickled at the proper ſeaſons. One of the fiſhing boats, employed in catching the eels in our Lagunes, might be ſent thither, to teach the inhabitants of Pecoſtiane, and the neigh-

* *Lavorieri* is a term uſed in the Lagunes of Venice, and Comacchio, and ſignifies, certain encloſures made with reeds, and ſo contrived, that the eels, when once within them, cannot find the way out. The art of *Lavorieri*, which was once proper to the Lagunes of the Adriatick, is now introduced with equal ſucceſs in other parts.

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neighbouring places, a better method. It is certain, that no ſmall ſum of money goes out of this ſtate yearly, to Comacchio, for ſalted and pickled eels; why do we not, therefore, rather avail ourſelves of the lakes and fens within the ſtate? One of the principal objects of my obſervations along the coaſts of Dalmatia, was the fiſhing; for without doubt, whatever tends to put this article on a better footing, or to introduce it, where it is not ſuitably exerciſed, becomes a ſource of national œconomy and intereſt. And as the lake of Vrana is the largeſt of all thoſe that are near the ſea, it ſeems to merit the particular attention of our magiſtrates, who preſide over the trade, cultivation, and increaſe of the products within our ſtate.

The inhabitants of this country, and, indeed, the Morlacchi in general, have a mortal averſion to frogs, and even in the times of famine (which are but too frequent, through the ill management of agriculture, and ſome conſtitutional defects) a true Morlack will rather die of hunger, than eat a frog: when I aſked the Curate of Vrana, why he did not rather eat frogs than bad cheeſe, he was much offended, and told me, that a raſcally Morlack ſometimes carried them to the market of Zara, but had not yet gone ſo far as to eat them; adding, that this fellow was the reproach of the village.

On the Petrefactions of CERAGNE, BENCOVAZ, *and* PODLUK.

I found in the woods, near Ceragne, large aggregates of *Turbinites* cemented in the common Dalmatian marble, and not far from them, the ſame ſpecies of *Ortoceratites* that I had met with before at Uglian. There are alſo lenticular ſtones under the fort of Bencovaz; and again, at a hamlet near Podluk, in as perfect

fect preſervation as thoſe of Montevaile in the Vicentine territory, and of S. Giovanni Ilarione, which are remarkably fine. Between the fort of Bencovaz, and the wood of Cucagl, there is a ſmall extent of hills, moſtly compoſed of a blueiſh marine clay, and in ſome parts of a very white marly earth. In the apertures made by the torrents, I collected ſome ſcattered marine bodies, ſome of which were *ſpatous nuclei* of the Turbinites, of a very lucid yellow golden colour. In general, the ſtone of which the hills of that neighbourhood are compoſed, reſembles greatly the ſoft ſtone of our Italian hills. The large fields, and beautiful valleys of this diſtrict, are ill peopled, and worſe cultivated; and in ſome places, through want of population, the ſtreams that fall from the mountains being totally left to themſelves, form ſtagnant pools, and greatly vitiate the natural purity of the air. The caſtle of *Peruſſich*, belonging to the noble family of the Counts Poſſedaria, is not however, expoſed to this inconvenience of bad air, being ſituated on a ſtony hill. It alſo commands a great tract of country, and ſerves as a place of refuge to the Morlacks, in times of danger.

Ruins of ASSERIA, *now called* PODGRAJE.

A ſhort mile from the caſtle, lies the poor hamlet of Podgraje; (a) which takes its name from the city, which in paſt ages ſtood, where theſe wretched cottages are now ſcattered. Peutinger's Itinery places Aſſeria on this ſpot; it is the *Aſſiſia* of Ptolomy, and the *Aſſeſia*, or Aſſeria of Pliny. This laſt author, after having ſpecified the Liburnian cities that were obliged to attend the congreſs, or diet of *Scardona*, adds to the catalogue the free Aſſerians, *immuneſque Aſſeriates*; (b) and this people, who created

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created their own Magiſtrates, and were governed by their own municipal laws, were, no doubt, more rich and powerful than their neighbours. Thoſe writers on Illyrian affairs, who thought that *Zemonico* roſe out of the ruins of Aſſeria, were certainly miſtaken; for Zemonico is a fort in the diſtrict of Zora, ſixteen miles diſtant from Podgraje. Gluibavaz, in his Mſſ. *de ſitu Illyrici*, fell into the ſame miſtake, though he cannot be much blamed for it, becauſe when he wrote, the ruins of Aſſeria were under the Turks, and therefore not eaſily open to obſervation.

The veſtiges of the walls of Aſſeria, that ſtill remain, (plate II.) are a ſufficient proof of what I have advanced; for their circumference is clearly diſtinguiſhable above ground, and meaſures 3600 Roman feet. The ſpace, incloſed by them, forms an oblong polygon, and they are built with common Dalmatian marble, but not taken from the hill on which they ſtand, for that furniſhes only ſoft ſtone. The walls are inveſted, both inſide and out, with this marble: ſome of the ſtones are ten feet long, and they are of all conſiderable dimenſions. The thickneſs of theſe fortifications is commonly about eight feet; but at the narroweſt extremity, which falls towards the foot of the hill, they are eleven feet thick; and, in ſome parts, their height, ſtill above ground, reaches to near thirty feet. In one place only (A) there are manifeſt traces of a gate: I ſtood upon the curve of its arch, which ſome of the inhabitants remember to have ſeen entire. Perhaps there was another gate at (B) which now ſerves for the entry; and beſides the gates, there are two other openings at C and D, the laſt not ſo well preſerved as the firſt: but I cannot conjecture for what uſe they were intended; for they ſeem not to be gates, nor loop-holes, nor drains.

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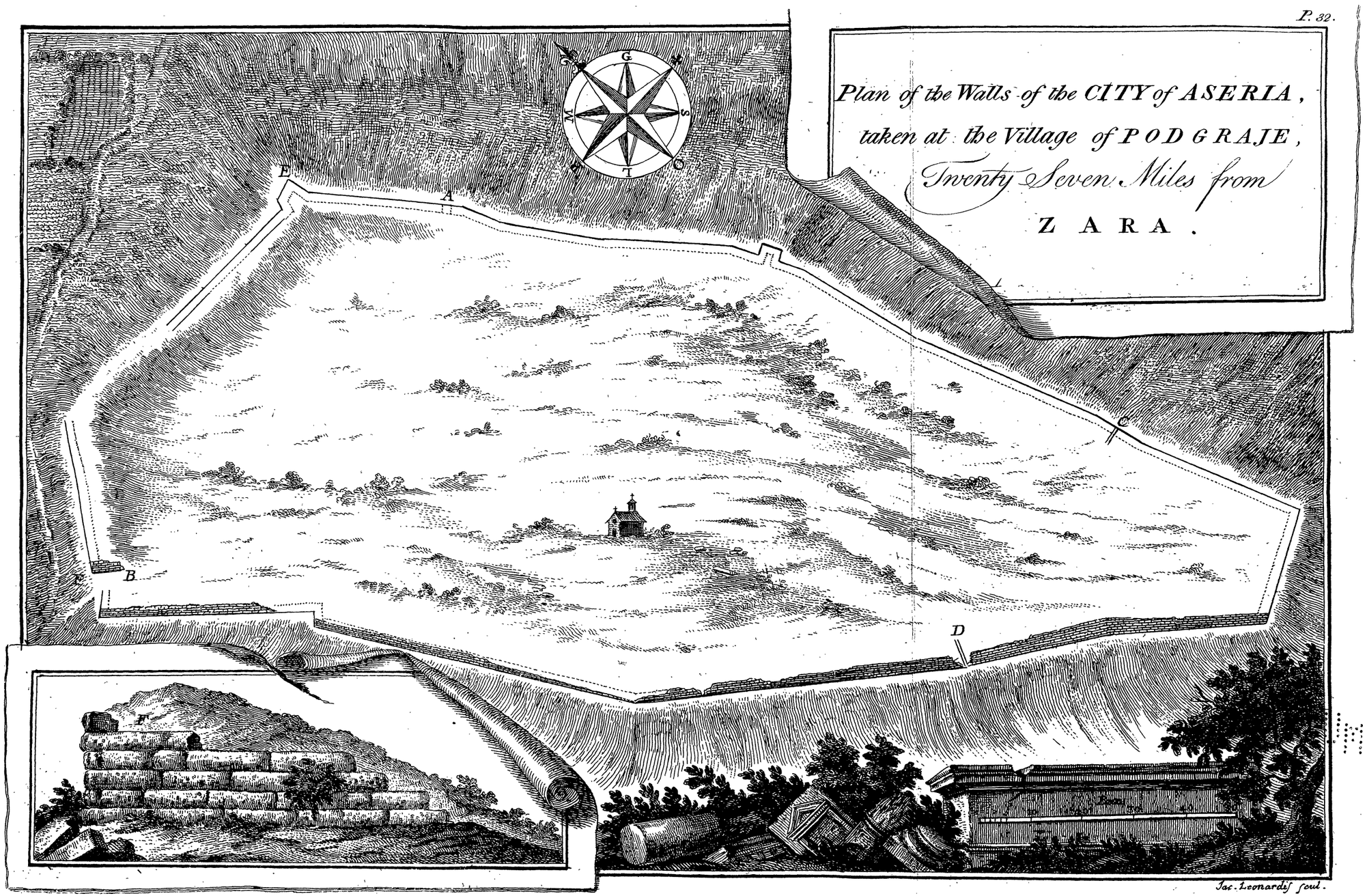
Plan of the Walls of the CITY of ASERIA, taken at the Village of PODGRAJE, Twenty Seven Miles from ZARA.



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drains. The middle baſtion E, merits particular obſervation, as it agrees very well with modern military architecture; and a Profeſſor of that noble art would find many things beſides this worthy of his attention. An antiquary, or even a ſimple lover of the fine arts, or of erudition, cannot help wiſhing at Podgraje, that ſome powerful hand, *Quicquid ſub terra eſt in apricum proferit:* and ſuch a wiſh becomes ſtronger, when he reflects, that ſince the deſtruction of that city, no ſearch has ever been made under ground, with a view to diſcover any thing curious; and yet theſe walls, without doubt, incloſe a valuable depoſite of antiquities, thrown down in heaps, who knows by what cauſe; perhaps naturally, by an earthquake, or perhaps, by a ſudden inundation of barbarians, which is ſtill worſe. The gate now demoliſhed, the conſiderable height of the walls to be ſeen in ſeveral places from without, ſome pieces of thick walls, that ſtill appear levelled to the ground among the buſhes, are circumſtances, which give ground to hope that many coſtly monuments might be recovered out of theſe ruins. The magnificence of the wall F, and the many pieces of well cut ſtone, and fine marble ſcattered over the contiguous fields, afford ſufficient proof, that both good taſte, and grandeur once flouriſhed in that country. In the midſt of the rubbiſh, which covers the remains of Aſſeria, the pariſh church of the little village ſtands inſolated; it is built of broken pieces of ancient ruins, taken as they happened to be neareſt, mixed with mutilated inſcriptions, and fragments of noble cornices.

The Morlacks, who inhabit Podgraje, formerly paid ſome attention to ſtones, on which they ſaw any thing remarkable, when they met with them in ploughing, or digging; but ever

 ſince

ſince they were forced to drag ſome ſepulchral columns, without any reward, to the ſea-ſide, they have vowed perpetual emnity againſt all inſcriptions; and the moment they diſcover them, they either break, or bury them under ground, deeper than they were before: and in juſtice, they ought not to be accuſed of barbariſm on this account; for there is an eaſy way of making them become, not only preſervers of, but ſearchers for ancient monuments; and that is, only to give them hopes of ſome premium for their diſcoveries, and labour. I found by accident, in the houſe of the Morlack *Jurcka*, a ſepulchral monument, and bought it for very little money, which, with ſome other ſuch acquiſitions, I ſhall bring with me into Italy. It is no difficult matter to gain the friendſhip of the Morlacks; and from thence many uſeful diſcoveries might be derived. I flatter myſelf I could do this, as I know the temper of the people; and therefore I have left Podgraje, with an earneſt deſire to be able to return, furniſhed with the neceſſary means of making ſubterraneous diſcoveries.

Of the Manna of Cosiovaz.

Coſſovaz is a poor place, like the other hamlets of theſe parts, but the woods of its diſtrict are well ſtored with Fraxzini, which yield Manna in abundance, when the requiſite inciſions are made. The Morlacchi know nothing about inciſions, and were equally ignorant of the produce of theſe trees, till two years ago, when a perſon went there to try experiments, by permiſſion from the Government. His experiments however did not anſwer, the ſeaſon happening to be cooler than uſual, ſo he loſt patience, and abandoned his project; yet when the heat returned,

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View of OSTROVIZZA & the STRATA of the Upper Hills parallel to the CASTLE

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returned, the trees gave a prodigious quantity of Manna, which the Morlacks finding of a ſweet taſte, eagerly devoured; and ſeveral of them were near loſing their lives, by the violent evacuation it occaſioned: ſo in a few days the Manna remained only a food for the hogs and turkeys.

Of OSTROVIZZA.

Oſtrovizza, which ſome would have the ſame as *Arauzona*, and others, the Stlupi of the ancients, though probably, it has no connection with either the one or the other, was purchaſed in 1410, by the Republick of Venice, for five thouſand ducats, and ſome pieces of land beſides. Its fortreſs, which was ſeated on a rock, perpendicularly cut all round, and deſervedly reckoned impregnable, before the uſe of artillery, was taken by Soliman in 1524, but ſoon after returned under the dominion of Venice. At preſent, no traces of its fortification remain, and it is only a bare, and iſolated maſs.

I have had a ſmall view of the hills of Oſtrovizza drawn, (plate III) becauſe their tops ſhew the duplicity of the diviſions of the ſtrata very plainly, and may ſerve to undeceive thoſe, who might too readily believe, that the appearances of perpendicular diviſions co-exiſted with the ſtrata themſelves, according to the law of ſtratification. The lines, AAAA, which cut almoſt always, at right angles the horizontals, BBBB, are ſo many viſible proofs of the work of waſting waters; theſe have made their way down the ſide of the hill, cutting rivulets in it, cc, which in ſome places hide the horizontal diviſions, DDDD.

The

The ſtrata that form the ſummit of the maſs E, on which the ancient caſtle ſtood, are of gravel, of various ſorts and colour; ſome are of quartz, and ſome contain marine foſſil bodies: The ſtratum F, is of a ſtone like that of Nanto in the Vicentine, which reſembles the *Moilon* of the French. In rambling around the ruggid hill GG, I collected ſeveral *Nummales*, both of the ordinary ſpecies's which has it ſpires, or circumvolutions, hid, and of that leſs common, which ſhews them on its ſurface; beſides an excellent ſpecimen of a ſpecies of Chama, and among other foſſils many fiſtulous Coralloids, and African *Echinites*, but in bad condition. I ſaw beſides, various turbinated univalves, particularly *cochleæ*, and the common *Buccina*, with ſome rare ſpecimens of an exotic ſpecies of *Fungites*, orbicular, flattiſh, and ſometimes rather hollow in the middle, not the third part of a line thick at the edges, and commonly not above an inch in diameter. On the hill, where the caſtle formerly ſtood there are ſigns of a ſtratum of very beautiful ſpotted marble, compoſed of ſmall marine fragments, and of vulcanic ſand, worn ſmooth, and rounded by water.

The covered ſtratum H, is of a blueiſh hardened clay, like that of which the foot of the contiguous hill is compoſed, and a row of other little hills which extend to Brebit, and from thence to Scardona. And here I muſt take notice, that I cannot agree with the celebrated *Raſpe*, who attributes theſe vertical fiſſures in the calcarious ſtrata, as well as many other ſimilar phænomena, to earthquakes. Their ſubdiviſions appear too minute and regular, to be derived from ſo ſudden, and violent an agent; add to this, that I have often obſerved in Dalmatia, that the

the ſolid maſſes of marble have their fiſſures likewiſe, and of the ſame nature in every reſpect as theſe juſt taken notice of. Theſe fiſſures are ingeniouſly accounted for by the learned Paſſeri, in his *Natural hiſtory of foſſils of the territory of Peſaro*; a work, that well deſerves to be reprinted, and to be better known beyond the Alps. I am however by no means averſe to allow with M. Raſpe, and my friend Paſſeri (who, by the by, ſeems partial to the Hookian ſyſtem) a great deal to the force of earthquakes, and vulcanic fire, which is the cauſe of them, when the queſtion is to explain the greater fiſſures and openings, or the ſubverſions of mountains. But examples of great bodies thrown out of equilibrium, and overturned by the long ſlow labours of ſubterraneous waters, have ſo frequently occurred to me, in my travels through Italy, and this country, that I dare not prefer more unknown and remote cauſes to them.

Not many years ago, a fen, near the village of Oſtrovizza, was ſtruck with lightening, and its bottom being turf, it burnt a long time underground, though the fire was viſible only in the night; after it was extinguiſhed, the whole fen remained black, and the upper ſoil became barren; and it was juſt that blackneſs that raiſed my curioſity to obſerve it.

Your Lordſhip will agree with me, that we have a right to place lightening among the original cauſes of vulcanos; for if a thunderbolt fall in a mountain of ſulphur, would it not in all probability, make a much greater exploſion and have more remarkable conſequences, than falling on the wet turfy fen of Oſtrovizza? and I remember to have read ſomewhere, that when Linnæus was travelling through the iſland of Oeland, he ſaw at Moc Kelby ſeveral heaps of minerals, from which the alum had been

been extracted, that had accidentally taken fire, two years before, and were ſtill burning. This little volcano had many of the characters of the Solfatera of Pozzuoli. Kempfer, in his voyage to Japan, has taken notice of a volcano, that had its origin from the caſual accenſion of a mine of foſſile coal.

A ſmall wood, not far from hence, produces in the autumn and ſpring an enormous ſpecies of *Fungus*, that perfectly reſembles the Carrariſe, upon which the learned Sig. Merſili Profeſſor of Botany in the Univerſity of Padua, has given us an excellent little treatiſe. * The vipers affect that ſituation, and multiply more there, than in any other place near it. The Fraxini alſo hereabouts gives plenty of Manna, and of excellent quality; but the Morlacchi have not yet learned how to make the ſimple operation requiſite, in order to obtain it, by diſtillation from the branches.

Of the River BRIBIRSCHIZA, *and of* MORPOLAZZA.

That I might be able to examine the waters, which form the lake under Oſtravizza, all along their courſe, I croſſed the fields, till I came to the head of the large ſtream Bribirſchiza, which iſſues from the bottom of a ſteep hill, on which are ſtill ſeen the ruins of Bribir, the ancient reſidence of a powerful family of the Bans of Dalmatia, who made a great figure in the 14th century. In examining the courſe of the Bribirſchiza, I found many adventitious ſpecimens of the large *Oſtracites*, though disfigured by fluctuation; and near the ſource, I ſaw ſeveral ſpecies of *Turbinites*,

* *Fungi Carrarienſis Hiſtoria*, Pat. 1766, 4to.

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binites, and foſſil Bivalves ſemicalcined, well preſerved, and pellucid, in a blueiſh ſtony clay; but not one of all the variety that I obſerved, lives in our ſeas. The large broken maſſes on the banks of the ſtream, ſome of which ſeem to have tumbled from the top of the hill, are of ſubmarine formation, and contain imprifoned, amidſt the gravel, a great variety of calcined teſtaceous bodies, which are ſtill diſtinguiſhable, notwithſtanding their being alſo disfigured; and ſome of them appeared to be natives of this country.

In my return to the ſea coaſt, I traverſed the large and beautiful plain of Morpolazza, flanked by hills, thinly inhabited, and divided, by a channel intended to carry off the waters of the neighbouring ſtreams, and pools. The ſoil of this plain, which lies almoſt all uncultivated, is a kind of marle, to the formation whereof, the ſhells of ſmall *Turbines* ſeem to have contributed; for every year, immenſe quantities of them are left by the waters, which falling from the ſuperior hills at Sopot, uſually overflow it. The channel of Morpolazza falls into the lake of Scardona, after a courſe of thirty miles, under the name of *Goducchia*. It is probable, that formerly there was ſome Roman eſtabliſhment on the bottom, near the place where the Church of St. Peter of Morpolazza now ſtands; for ſome remains of hewn ſtones, and fragments of inſcriptions, are ſtill to be ſeen. The *Arauſa* of the itinerary of Antonnius cannot be far from this place; and certainly thoſe who imagined that *Arauſa* or *Aurozona* is *Zuonigrad*, muſt be very far from the the truth, for Zuonigrad ſtands at leaſt thirty miles farther within land, and far from the road which that Emperor took.

There

There are foſſil marine bodies between Oſtrovizza, and Morpolazza, upon the hills of Stancovzi, and between Morpolazza and the ſea, on all the ſkirts of Bagnevaz, and Radeſſinovaz.

There were many other Roman eſtabliſhments in the diſtrict of Zara, of which, although even their names are loſt, the traces may be found by the help of the *Charta Peutingeriana*; ſome of the names ſtill remain; as, *Carin*, and *Nadin*, which roſe from the ruins of Corimum and Nedinum; but as I did not ſee them, I can give no account of what is to be obſerved about them; only I was told, that the veſtiges of an Amphitheatre ſtill remain near Carin.

I choſe to mention, though perhaps with a tireſome preciſion, all the places where I found any foſſils of marine origin; and all the plains, and rich pleaſant valleys, which I ſaw in my ride through a ſmall part of the diſtrict of Zara; that your Lordſhip might not ſuffer yourſelf to be deceived by what Donati* has written, though indeed with little truth, of the *eternal rocks* of Dalmatia, and of the continuity of I know not what *marble rock* which compoſes it; as well as of the rarity, or difficulty of diſtinguiſhing any marine foſſil bodies. It cannot be denied, that ſome of the mountains in that kingdom are rugged, and frightful; but it muſt be added, that there are alſo large diſtricts where no mountain exiſts; and that even among the mountains themſelves, there are very pleaſant and fertile valleys. The ſame Donati, who was my townſman, a Paduan, has alſo, in his *Saggio*, given rather an unfavourable character of the people, who inhabit the inland

* Donati Saggio di Storia Nat. p. 8, 9.

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inland parts of the Province, and was undoubtedly in the wrong to tell us, that *fear of the barbarity of the people, and the danger of making reſearches,* hindered *Spon* and *Wheeler* from proceeding into midland Dalmatia; for theſe two travellers were bound to the Levant, and embarked in a Venetian ſhip of war; conſequently, when they landed at any port, they were not at liberty to make any diſtant excurſions. Beſides, Spon found ſo much generous hoſpitality in the maritime places, and eſpecially at Spalatro, and was ſo well ſatisfied with the honeſty and reaſonableneſs of the Morlack guides, who accompanied him, in ſome ſhort rambles on horſeback, that he never could dream of fearing *the barbarity of the inlana people.* It is eaſy to conſult Spon himſelf, in the firſt volume of his travels, where he gives an account of his jaunt to Cliſſa; and if your Lordſhip will have the patience to read, one day or other, the detail of what I have perſonally experienced on that head among the Morlacks, you will no longer believe that people barbarous to ſuch a degree, as to render travelling in their country in the leaſt *dangerous.*

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TO

HIS EXCELLENCY

J. MOROSINI,

NOBLE VENETIAN.

Of the Manners of the MORLACCHI.

THOUGH I am deprived, by my diſtance from Venice, of the honour I formerly enjoyed of being often near you, and can but ſeldom find opportunities of ſending you letters by ſea, yet I muſt not neglect to write to you by ſuch occaſions as preſent themſelves, however precarious. Your Excellency will probably receive this letter a long time hence; but I am fully perſuaded, that, whenever it reaches your hands, it will meet with a gracious reception, in conſequence of the friendſhip which you have condeſcended to honour me with, and the pleaſure with which you conſtantly receive every intelligence that tends to promote the progreſs of natural hiſtory, and the ſciences in general.

You

You have, no doubt, often heard the Morlacchi deſcribed as a race of men, fierce, unreaſonable, void of humanity, and capable of any crime. The inhabitants of the ſea coaſt of Dalmatia tell many frightful ſtories about the cruelty of thoſe people, that, induced by the avidity of plunder, they often proceeded to the moſt atrocious exceſſes of violence, by fire and ſword. But theſe facts (though the truth of them is ſufficiently authenticated, by the known veracity of thoſe who relate them) are either of ancient date, or if ſome have happened in later times, they ought rather, from the characters they bear, to be aſcribed to the corruption of a few individuals, than to the bad diſpoſition of the nation in general. It is but too true, that, after the late wars with the Turks, the Morlacchi, habituated to murder and plunder with impunity, gave ſome examples of cruelty and rapine: but what inſtance can be given of troops juſt returned from war, and diſmiſſed from the exerciſe of arms, againſt the enemy of their ſovereign, that have not peopled the woods and highways with thieves and aſſaſſins? I think it, however, a duty incumbent on me, to write what I perſonally ſaw relative to their cuſtoms, and inclinations, and thereby to form ſome apology for that nation, by which I was ſo well received, and treated with ſo much humanity. And I am the more readily diſpoſed to do this, as it can hardly be thought to proceed from intereſted views; it being unlikely that I ſhall ever return into theſe parts of Morlacchia, where I have already been. It is uſual for travellers to magnify the dangers to which they have been expoſed, and the hardſhips they have ſuffered in remote countries; but I am far from that kind of affectation, and you will ſee by the detail that I am going to give you, of the manners and cuſtoms of the Morlacchi, with how great ſecurity and eaſe I travelled amongſt them,

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and with how well grounded a confidence I ſhould be animated to proſecute my reſearches, if circumſtances permitted.

Origin of the MORLACCHI.

The origin of the Morlacchi, who inhabit the pleaſant valleys of Kotar, along the rivers Kerka, Cettina, Narenta, and among the mountains of inland Dalmatia, * is involved in the darkneſs of barbarous ages, together with that of many other nations, reſembling them ſo much in cuſtoms and language, that they may be taken for one people, diſperſed in the vaſt tracts from the coaſts of our ſea to the frozen ocean. The emigrations of the various tribes of the Slavi, who, under the names of Scythians, Geti, Gaths, Huns, Slavini, Croats, Avari and Vandals, inundated the Roman provinces, and particularly the Illyrian, during the decline of the empire, muſt have ſtrangely perplexed the genealogies of the nations which inhabited it, and which, perhaps, removed thither in the ſame manner at more remote periods of time. The reſidue of the Ardiei, Autariati, and other Illyrian people, anciently ſettled in Dalmatia, who probably could not reconcile themſelves to a dependance on the Romans, might nevertheleſs, naturally enough unite themſelves to foreign invaders not unlike themſelves in dialect and cuſtoms. † And it

* The country inhabited by Morlacchi is of much larger extent, not only towards Greece, but towards Germany and Hungary; but I confine my account to the ſmall part of it which I ſaw.

† It cannot be doubted that the Sclavonian language exiſted in Dalmatia, even from the times of the Roman republick. The names of many cities, rivers, mountains, families and people in thoſe parts, preſerved to us by Greek and Latin writers, are manifeſtly Sclavonian. Promona, Alvona, Senia, Jadera, Rataneum, Stlupi,

it ſeems no ill founded conjecture to ſuppoſe, that many families of that laſt inundation of Tartars, who in the beginning of the thirteenth century, forced Bela 4th king of Hungary to take refuge in the iſlands of Dalmatia, remained, and peopled the deſerted vallies in the mountains, and left thoſe tracts of the Calmucks which are ſtill diſtinguiſhable, eſpecially in the territory of Zara.

There ſeems to be no great foundation for the opinion of the geographer Magini, who thinks the Morlacchi and Uſcochi derive their origin from Epirus. Their dialect has a much greater reſemblance to the Raſcian and Bulgarian, than to the Albaneſe; and if it were allowed, that a part of the Morlacchi of Venetian Dalmatia had, in latter times, removed from thoſe parts, the difficulty ſtill remains to account from whence they came thither. Magini alſo makes a ſeparate nation of the Haiduks, who never formed a people, as appers by the very ſignification of the word itſelf. *

Etymology of the Name.

The Molacchi generally call themſelves, in their own idiom, *Vlaſſi*,

Stlupi, Uſcana, Bilazora, Zagora, Triſtolus, Ciabrus, Ochra, Carpatius, Pleuratus, Agron, Teuca, Dardani, Tribalii, Grabaci, Peruſtæ, and many other words, which frequently occur, in the writings of ancient hiſtorians, and geographers, prove this ſufficiently. A much greater number of words derived from the Sclavonian might be added, from the inſcriptions in many parts of Dalmatia, under the firſt emperours.

* Haiduk ſignifies properly chief of a party, and ſometimes (as in Tranſilvania) head of a family; in Dalmatia it is underſtood to characterize a rogue, a bandito, highway-man.

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Vlaſſi, a national term, of which, as far as I have been hitherto able to diſcover, no veſtige is found in the records of Dalmatia before the thirteenth century: it ſignifies men of authority, or powerful. The denomination of *Moro-Vlaſſi*, and corruptly *Morlacchi*, as the inhabitants of the towns call them, might perhaps point out their original to us; that by great journeys, they came from the coaſts of the black ſea to invade theſe diſtant kingdoms. I think it not unlikely (although I undertake not ſtrenuouſly to defend my conjecture) that the denomination of *Moro-Vlaſſi* ſignified, at firſt, the powerful, or conquerors that came from the ſea, which is called *Moor* in all the dialects of the Sclavonian language. Little regard can be had to the etymology of the name *Morlacchi*, imagined by the celebrated hiſtorian of Dalmatia, *Johannes Lucius*, and copied from him by his compiler Freſchot, becauſe it is evidently too far fetched. He pretended that *Moro Vlaſſi*, or *Moro Vlaxi*, ſignifies *Neri-Lotini*; although, in good Illyrick, the word *Moor* does not correſpond to *black*; and beſides, our Molacchi are full as white as the Italians. To ſupport more plauſibly the ſecond part of this etymology, finding that the common root of the national names *Vlaſſi* or *Vlaki* and *Valacchi* is the word *Vlah*, indicating power, authority and nobility, he concluded that the inhabitants of *Valacchia* and our *Vlaſſi* muſt be one and the ſame thing. But the *Valacchi* ſpeak a language not a little reſembling the Latin; and being aſked the reaſon, they anſwer that they are originally Romans; conſequently our *Vlaſſi*, although their language differs a little, are alſo Romans. Beſides theſe *Vlaſſi* deſcended from Latin colonies were afterwards ſubdued by the Slavi, and hence the ſingular name *Vlah* and the plural *Vlaſſi*, among the Slavi, became ignominious and ſervile, inſomuch that it was alſo extended to men of the loweſt condition among the Slavi themſelves. Now in anſwer to all theſe frivolous aſſertions, it is ſufficient to obſerve,

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obſerve, that our Morlacchi are called *Vlaſſi*, that is, *noble* or *potent*, for the ſame reaſon that the body of the nation is called *Slavi*, which means *glorious*; that the word *Vlah* has nothing to do with Latin, and though it be the root of the name *Volacchi*, it is ſo, becauſe, notwithſtanding the colonies planted by Trajan, the general population of Dacia conſiſted, as every body knows, of people, who ſpoke the Sclavonian language; and thoſe who came there, in after ages, did the ſame. If the Slavi, when conquerors, had given, or left a name to the conquered people, they certainly would not have given or left one, which ſignifies nobility, or power; for they of neceſſity muſt have underſtood it, being a pure original Sclavoian word: And perhaps Lucius was in bad humour with the Morlacchi, when he laboured to vilify them even in the etymology of the name they bear. It is very true, that many words of Latin original are found in the dialect of the Illyrians, who inhabit the iſlands; ſuch as, *ſalbun*, *plavo*, *ſlap*, *vino*, *capa*, *roſſa*, *tepo*, *zlip*, *ſparta*, *ſkrinya*, *lug*; which ſignify, *ſand*, *yellow*, *fall of water*, *wine*, *cape*, *dew*, *tepid*, *blind*, *baſket*, *cheſt*, *wood*; and are evidently derived from *ſabulum*, *flavus*, *lapſus*, *vinum*, *caput*, *ros*, *tepidus*, *lippus*, *ſporta*, *ſcrineum*, *lignum*: yet from theſe, and many more which might be eaſily added, I do not think it can be reaſonably concluded, that the Morlacchi of our days are deſcendants, in a right line from the Romans, who ſettled in Dalmatia. It is the common defect of writers on the origin of nations, to draw general conſequences from trivial and particular *data*, which depend very often on caſual and tranſitory circumſtances. I am fully perſuaded, that the inveſtigation of languages would lead to a diſcovery of the origin of the nations by whom they were ſpoken; but I am alſo convinced, that, to prevent groſs miſtakes, the moſt acute criterion is neceſſary, in diſtinguiſhing adventitious from primitive words. The Illyrick language, which is widely

ſpread

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ſpread from the Adriatick to the ocean, has a very great number of roots like thoſe of the Greek, and ſome are to be found, even among the numerical words, which cannot be denied to be indigenous. There are alſo many Sclavonian terms perfectly Greek, ſuch as, *ſpugga*, *trapeza*, *catrida*, tranſpoſed, without any material difference, from σπόγγος, τραπεζα, καθεδρα. Yet the frequency of greciſms, and the analogy of the alphabet, are by no means ſufficient to induce me to aſſert, that the vaſt Sclavonian nation is deſcended from the Greeks, who were confined to a narrow tract; nor even, though more likely, that in far diſtant ages, the Sclavonians had invaded and peopled Greece. Very long and laborious ſtudies would be requiſite to clear up ſuch ancient facts; nor is it, perhaps, poſſible.

A learned Engliſhman takes notice of the analogy between the Engliſh and Illyrick tongues, † and, indeed, not without ſome reaſon; for the words *ſtina*, *meſo*, *med*, *biſkup*, *brate*, *ſeſtra*, *ſin*, *ſunze*, *mliko*, *ſnigh*, *voda*, *greb*, are not unlike the Engliſh, *ſtone*, *fleſh*, *mead*, *biſhop*, *brother*, *ſiſter*, *ſon*, *ſun*, *milk*, *ſnow*, *water*, *grave*; but it remains to be examined, whether theſe words were not derived from ſome dialect of the ancient northern Celti, and brought over by the Saxons into that noble iſland. However, at all events, I would not pretend to decide on ſo obſcure a ſubject, unleſs I perceived a palpable reſemblance between the body of one language and another; for many words of ſimilar ſound and meaning may happen to be found in different languages, although the origin of the reſpective people have no manner of connection. For inſtance, the Italian has a conſiderable mixture of exotic words, and yet it cannot be rea-

† Brerewood, de ſcrut. Relig.

ſonably ſaid, that the Italians are deſcended from foreign nations. Beſides its affinities with the Arabick, Greek, German, and French languages, as obſerved by Muratori and others; the reſemblance it has with the Sclavonian dialect is very great, tho' nobody has hitherto endeavoured to prove that our anceſtors came from thence.

Origin of the MORLACCHI *different from that of the Inhabitants of the Coaſt and Iſlands.*

The inhabitants of the maritime towns, true deſcendants of the Roman Colonies, are no friends to the Morlacchi, who, in return, look upon them, as well as the inhabitants of the iſlands, with the greateſt contempt: which reciprocal diſlike, no doubt, proceeds, in part, from ancient diſcord between the two races. A Morlack bows indeed, before a gentleman of the city, or an advocate, of whom he ſtands in need, but loves them not; and treats all others, of whom he is independent, with the name of *Bodolo*, which, according to his meaning, is an injurious term. This puts me in mind of the Morlack ſoldier, who is ſtill remembered in the hoſpital of Padua where he died. The prieſt appointed to aſſiſt him in his laſt moments, not knowing the force of the word, begun his exhortation, with "Courage Signor "*Bodolo!*" "Friar, interrupted the dying man, do not call me "*Bodolo*, or you will make me damn myſelf."

The great difference in dialect, dreſs, diſpoſition, and cuſtoms, between the maritime and tranſalpine inhabitants of Dalmatia, ſeems clearly to prove, that they ſprung not from the ſame origin; or, at leaſt, it muſt have been at very diſtant periods, and with circumſtances capable of altering their national

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national character. There is alſo a remarkable diverſity among the Morlacchi themſelves, in ſeveral diſtricts; derived, perhaps, from the different countries from whence they came. For the inhabitants of *Kotar* are generally fair, with blue eyes, a broad face, and flat noſe; and thoſe of the plains of *Seign* and *Knin*, reſemble them much; but thoſe of *Duare*, and *Vergoraz*, have dark coloured hair, a long face, tawny colour, and tall ſtature. The qualities of their mind are alſo as different as thoſe of the body; for the Morlacchi of *Kotar* are generally mild, reſpectful and tractable; but thoſe of *Vergoraz* are ſurly, proud, bold, and enterprizing. They have alſo a very ſtrong inclination to theft; owing, in part, to their ſituation among inacceſſible and barren mountains, where they are often expoſed to want, but are ſure of impunity; and, perhaps, the ancient blood of the *Varali*, *Ardiei*, and *Autariati*, who were confined among thoſe mountains by the Romans, ſtill runs in their veins. For the moſt part, their robberies fall on the Turks; though, in caſes of neceſſity, they are ſaid to uſe the ſame freedom with the Chriſtians. Among the artful and bold ſtrokes of knavery, which they tell of one of theſe *Vergorzani*, the following is characteriſtick. The rogue was at a fair, and a countryman having bought a copper kettle, laid it down, together with his bundle, juſt by his ſide; the Vergorvan, who ſtood hard by, took up the kettle, while the peaſant was talking to an acquaintance, and ſet it on his head, without ſtirring from his place; the other, having finiſhed his conference, turned about to take up his things, but the kettle was gone, and aſking him, who had it on his head, if he had not ſeen ſomebody carry it off, he was anſwered; "Truly, "Friend, I was not minding theſe things, but if you had put "your kettle on your head, as you ſee I did, you would not have "loſt it." Yet, notwithſtanding theſe miſchievous tricks, which

which they ſay are frequent enough, a ſtranger may travel ſecurely among them, is faithfully eſcorted, and hoſpitably treated.

The greateſt danger to be feared, is from the Haiduks, of whom great numbers have retreated among the woods, and caves of thoſe dreadful mountains on the confines; there, a traveller ought to get himſelf eſcorted by a couple of theſe honeſt fellows, and he is quite ſafe; for they are not capable of betraying him, although a banditti; and, indeed, their caſe is commonly more apt to raiſe compaſſion, than diffidence; for their character is not eſſentially bad; if it were ſo, their numbers would ſoon become very formidable to the maritime inhabitants of Dalmatia. They lead their life among the wolves, wandering from one precipice to another, agitated by continual fears and ſuſpicions, expoſed to the ſeverity of the ſeaſons, and often deprived of the neceſſaries of life, languiſh in the moſt ſolitary hideous caverns. It would be no wonder, if ſuch men, irritated by the conſtant view of their miſerable ſituation, were to commit acts of violence, eſpecially againſt thoſe to whom they attribute the cauſe of their calamities. Yet they very ſeldom diſturb the tranquillity of others, and prove always faithful guides to travellers. The chief objects of their rapine are oxen and ſheep, to ſupply themſelves with food and ſhoes; and I have often heard them bitterly and juſtly cenſured, for the barbarous indiſcretion of killing a poor man's ox, in order to ſerve themſelves only with a ſmall portion of the meat, and the ſkin. This certainly admits of no apology; yet humanity bids us reflect, that the things coveted by theſe wretches, are articles of the greateſt neceſſity, as they are condemned to live among deſolate mountains, which have no covering either of graſs or earth, and are full

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full of hard ſharp ſtones, that have been rendered ſtill more rough and cutting by the action of the air and time. It happens ſometimes, in their extreme neceſſity, that the Haiduks go in parties to the ſhepherds cottages, and rudely demand ſomething to eat, which they immediately take by force, if the leaſt heſitation is made; though they ſeldom meet with a refuſal, or reſiſtance, as their reſolution and fury are well known to be equal to their wants, and to the ſavage life which they lead. Four Haiduks are not afraid to aſſault a caravan of fifteen or twenty Turks, and generally plunder and put them to flight. When a Haiduk happens to be taken by the *Panduri*, they do not bind him, as our *Birri* are uſed to do, but untying the ſtring of his breeches, they fall down on his heels, and prevent a poſſibility of eſcape, if he attempted it; a humane contrivance to ſecure a man without binding him like a beaſt. The greateſt part of the Haiduks look upon it as a meritorious action, to ſhed the blood of the Turks; a miſtaken zeal for religion, joined to their natural and acquired ferocity, eaſily lead them to commit ſuch acts of violence; and the ignorance, and national prejudices of their prieſts are too apt to inflame their barbarous fanaticiſm.

On the moral and domeſtick Virtues of the MORLACCHI.

The morals of a Morlack, at a diſtance from the ſea coſt and garriſons, are generally very different from ours. The ſincerity, truſt, and honeſty of theſe poor people, not only in contracts, but in all the ordinary actions of their life, would be called ſimplicity and weakneſs among us. It is true, that the Italians, who trade in Dalmatia, and the littoral inhabitants themſelves, have but too often taken advantage of this integrity; and hence the

Morlacchi

Morlacchi are become much more diffident, than they were in former times; inſomuch, that the want of probity, which they have ſo often experienced, in dealing with the Italians, is paſſed into a proverb among them, and the words *paſſia-viro*, and *Lanz-manzka-viro*, that is, the faith of a dog, and faith of an Italian, are uſed to expreſs the ſame reproachful meaning. This prepoſſeſſion againſt us might prove incommodious to an unknown traveller, and yet it ſeldom happens. For the Morlack, naturally hoſpitable and generous, opens his poor cottage to the ſtranger, and ſerves him to the utmoſt of his power, without demanding, nay, often obſtinately refuſing, the leaſt recompence; and I have more than once got a dinner from one of thoſe men, who knew nothing about me, had never ſeen me, and could not expect ever to ſee me again.

I ſhall never forget the cordial reception and treatment given me by *Pervan Vajvod*, of *Coccorich*; to whom I had nothing elſe to recommend me but my being in friendſhip with a family who were alſo his friends. He ſent his horſes, and an eſcort to meet me on the road; and, during the few days which I ſpent in that neighbourhood, loaded me with all the luxury of national hoſpitality. He ſent his own ſon, and ſeveral of his people, to eſcort me as far as the plains of *Narenta*, a good day's journey from his houſe, and furniſhed me with proviſions in abundance; and all this was done without my being allowed to ſpend a ſingle penny. On my departure from that hoſpitable manſion, he and all his family came out and followed me with their eyes, till I was out of ſight; which affectionate manner of taking leave raiſed a kind of agitation in my mind, which I never felt before, and can ſcarcely ever hope to feel again, in travelling over Italy. I took along with me the portrait of my generous hoſt,

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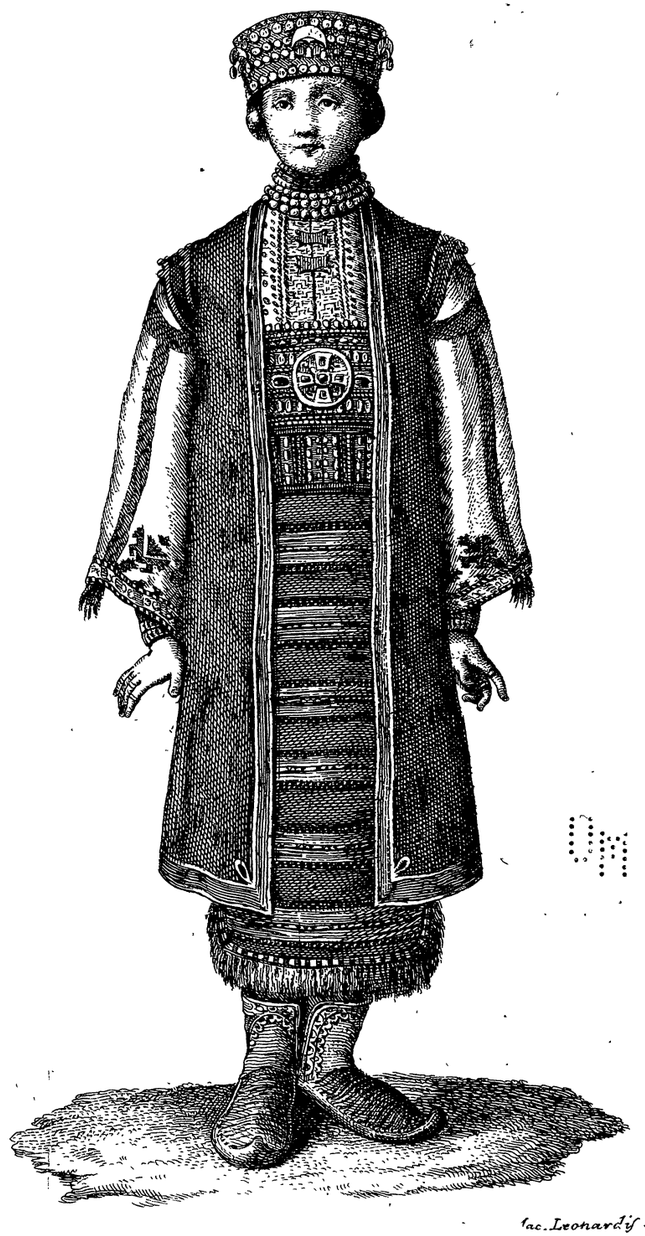
The Vajvoda Pervan of Coccorich.

A Noble Young Lady of Coccorich.

A Young Lady of the Kotàr.



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(P. 4.) that, in ſpite of the interpoſition of ſea and mountains, I might have the pleaſure of beholding him, at leaſt, in effigy; and alſo to give an idea of the luxury of the Morlacchi, in the habits of their chiefs. *Pervan* alſo gave me leave to take a drawing of the dreſs of one of his nieces, which is very different from that of the young women of *Kotar*, and of the other Morlack territories that I had ſeen.

The Morlacchi are extremely ſenſible of mild treatment, and, when they meet with it, are ready to perform every poſſible ſervice, and to become cordial friends. Their hoſpitality is equally conſpicuous among the poor as among the more opulent. The rich prepares a roaſted lamb, or ſheep; and the poor, with equal cordiality, gives his turkey, milk, honey, or whatever elſe he has. Nor is their generoſity confined to ſtrangers, but generally extends itſelf to all who are in want.

When a Morlack is on a journey, and comes to lodge at a friend's houſe, the eldeſt daughter of the family, or the new married bride, if there happens to be one, receives, and kiſſes him when he alights from his horſe, or at the door of the houſe. But a foreigner is rarely favoured with theſe female civilities; on the contrary, the women, if they are young, hide themſelves, and keep out of his way. Perhaps more than one violation of the laws of hoſpitality has made them thus reſerved to ſtrangers; or perhaps the jealous cuſtoms of the neighbouring Turks have ſpread among the Morlacchi.

While there is any thing to eat in the houſes of thoſe villagers, the poor of the neighbourhood are welcome to partake of it; and hence it is, that no Morlack ever humbles himſelf to aſk alms

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of a paſſenger; at leaſt, I never met with one example of it. I indeed, have often been forced to aſk ſomething from poor ſhepherds, but I always found them liberal; and many times, in travelling through the fields in the heat of ſummer, I have met poor reapers, who, of their own accord, preſented me with their flaſks to drink, and offered me a part of their ruſtick proviſions, with an affecting cordiality.

The Morlacchi, in general, have little notion of domeſtick œconomy, and readily conſume in a week, as much as would be ſufficient for ſeveral months, whenever any occaſion of merryment preſents itſelf. A marriage, the holiday of the Saint, protector of the family, the arrival of relations or friends, or any other joyful incident, conſumes, of courſe, all that there is to eat and to drink in the houſe. Yet the Morlack is a great œconomiſt in the uſe of his wearing apparel; for, rather than ſpoil his new cape, he takes it off, let it rain ever ſo hard, and goes bareheaded in the ſtorm. In the ſame manner he treats his ſhoes, if the road is dirty, and they are not very old. Nothing but an abſolute impoſſibility hinders a Morlack from being punctual; and, if he cannot repay the money he borrowed, at the appointed time, he carries a ſmall preſent to his creditor, and requeſts a longer term. Thus it happens ſometimes, that, from term to term, and preſent to preſent, he pays double what he owed, without reflecting on it.

Of their Friendſhips and Quarrels.

Friendſhip, that among us is ſo ſubject to change on the ſlighteſt motives, is laſting among the Morlacchi. They have even made it a kind of religious point, and tie the ſacred bond at the

the foot of the altar. The Sclavonian ritual contains a particular benediction for the ſolemn union of two male or two female friends in the preſence of the congregation. I was preſent at the union of two young women, who were made *Poſeſtre*, in the church of *Peruſſich*. The ſatisfaction that ſparkled in their eyes, when the ceremony was performed, gave a convincing proof, that delicacy of ſentiments can lodge in minds not formed, or rather not corrupted by ſociety, which we call civilized. The male friends thus united, are called *Pobratimi*, and the females *Poſeſtreme*, which mean half-brothers, and half-ſiſters. Friendſhips between thoſe of different ſexes, are not at this day bound with ſo much ſolemnity, though perhaps in more ancient and innocent ages it was alſo the cuſtom.

From theſe conſecrated friendſhips among the Morlacchi and other nations of the ſame origin, it ſhould ſeem, that the *ſworn brothers* aroſe a denomination frequent enough among our common people, and in many parts of Europe. The difference between theſe and the *Pobratimi* of Morlacchia, conſiſts, not only in the want of the ritual ceremony, but in the deſign of the union itſelf. For, among the Morlacchi, the ſole view is reciprocal ſervice and advantage; but ſuch a brotherhood among us, is generally commenced by bad men, to enable them the more to hurt and diſturb ſociety. The duties of the *Pobratimi* are, to aſſiſt each other in every caſe of need or danger, to revenge mutual wrongs, and ſuch like. The enthuſiaſm is often carried ſo far as to riſk, and even to loſe their life for the *Pobratimi*, although theſe ſavage friends are not celebrated like a *Pilades*. If diſcord happens to ariſe between two friends, it is talked of over all the country as a ſcandalous novelty; and there have been ſome examples of it of late years, to the great affliction of the old Morlacchi, who attribute the depravation of their countrymen to their intercourſe

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with the Italians. Wine and ſtrong liquors, of which the nation is beginning to make daily abuſe, after our example, will, of courſe, produce the ſame bad effects as among us.

But as the friendſhips of the Morlacchi are ſtrong and ſacred, ſo their quarrels are commonly unextinguiſhable. They paſs from father to ſon, and the mothers fail not to put their children in mind of their duty, to revenge their father, if he has had the misfortune to be killed, and to ſhew them often the bloody ſhirt and arms of the dead. And ſo deeply is revenge rooted in the minds of this nation, that all the miſſionaries in the world would not be able to eradicate it. A Morlack is naturally inclined to do good to his fellow creatures, and is full of gratitude for the ſmalleſt benefit; but implacable if injured or inſulted. With him, revenge and juſtice have exactly the ſame meaning, and truly it is the primitive idea; and I have been told, that in Albonia, the effects of revenge are ſtill more atrocious and more laſting. There, a man of the mildeſt character, is capable of the moſt barbarous revenge, believing it his poſitive duty, and preferring the mad chimera of falſe honour, to the violation of the moſt ſacred laws, and to the puniſhment to which he expoſes himſelf, with premeditated reſolution.

A Morlack, who has killed another of a powerful family, is commonly obliged to ſave himſelf by flight, and to keep out of the way for ſeveral years. If, during that time, he has been fortunate enough to eſcape the ſearch of his purſuers, and has got a ſmall ſum of money, he endeavours to obtain pardon and peace; and, that he may treat about the conditions in perſon, he aſks, and obtains a ſafe conduct, which is faithfully maintained though only verbally granted. Then, he finds mediators, and,

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and, on an appointed day, the relations of the two hoſtile families are aſſembled, and the criminal is introduced, dragging himſelf along on his hands and feet, the muſket, piſtol or cutlaſs, with which he committed the murder, hung about his neck; and while he continues in that humble poſture, one or more of the relations recites a panegyrick on the dead, which ſometimes rekindles the flames of revenge, and puts the poor proſtrate in no ſmall danger. It is the cuſtom in ſome places for the offended party to threaten the criminal, holding all kind of arms to his throat, and, after much intreaty, to conſent at leaſt to accept of his ranſom. Theſe pacifications coſt dear in Albonia, but the Morlacchi make up matters ſometimes at a ſmall expence; and every where the buſineſs is concluded with a feaſt at the offender's charge.

Of the Talents and Arts of the MORLACCHI.

The natural vivacity and enterprizing ſpirit of the Morlacchi, qualify them to ſucceed in any kind of employment. In particular, they make excellent ſoldiers, and, towards the end of the laſt age, they performed very uſeful ſervice, under the brave general *Delfino*, who conquered an important tract of country belonging to the Porte, chiefly by their means. They alſo become very expert in the direction of mercantile buſineſs; and eaſily learn to read and write, even after they are grown up. It is ſaid, that the Morlack ſhepherds, about the beginning of this age, were very fond of reading a large book of the chriſtian doctrine, moral and hiſtorical, compiled by father *Divcovich*, and reprinted ſeveral times at Venice, in the Ceryllian Boſnian character, which is ſomewhat different from the Ruſſian. It happened often, that the prieſt of the pariſh, more pious than learned,

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ed, in his citations, miſtook, or altered material circumſtances, and then one of the audience would ſay aloud, *nie tako*, it is not ſo. It is added, that to prevent that ſcandal, great pains were taken to collect all thoſe books, and in fact, very few of them are now found among the ſhepherds. This nation is alſo endowed with remarkable quickneſs of fancy, and are very ready, on any occaſion, at giving pointed anſwers.

Notwithſtanding their execellent diſpoſition to learn every art, the Morlacchi have the moſt imperfect notions of huſbandry, and are very unſkillful in the management of their cattle, and in curing their diſeaſes. They have a ſingular veneration for old cuſtoms, and little care has hitherto been taken either to remove their prejudices, or to teach them better methods. Their ploughs, and other rural utenſils, ſeem to be of the moſt rude invention, and are as unlike ours, as the other faſhions uſed in the days of *Triptolemus* would be to thoſe of the preſent age. They make cheeſe, butter, and cream-cheeſe too, in their way; all which might paſs well enough, if they were only done with more cleanlineſs. The taylor's art is confined to ancient and unalterable patterns, which are always cut from the ſame kind of cloth, ſo that any difference in the uſual breadth would quite diſconcert a Morlack taylor. They have ſome notion of dying, and their colours are not deſpicable. Their black is made of the bark of the aſh-tree, called by them *Jaſſen*, laid in warm water for eight days, with ſome iron droſs, which they gather from the blackſmiths forges; then they make uſe of this water, when cold, to give the colour. They alſo extract a fine blue colour from the infuſion of wood, dried in the ſhade, in a lie of aſhes well purified; they let this mixture boil ſeveral hours, and tinge the cloth in the water when cold. *Scodanus*,

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danus, by them called *Rug*, gives yellow and brown; and they alſo obtain a yellow from the *Evonimus*, known there by the name of *Puzzolina*.

Almoſt all the Morlack women are ſkilful in works of embroidery and knitting. Their embroidery is curious, and exactly the ſame on both ſides. They alſo make a ſort of knit, or network, that our Italian women cannot imitate, and uſe it chiefly as a kind of buſkin to their ſlippers and brogues, called *Nazuvka*. They do not want looms to weave their ſerge and other coarſe cloth; but the women have not much time to apply to theſe things, their offices among the Morlacchi not admitting of ſedentary labours.

In ſome of their villages, particularly at *Verlika*, they make earthen ware, very coarſe indeed, but very durable.

Of the Superſtition of the MORLACCHI.

The Morlacks, whether they happen to be of the Roman, or of the Greek church, have very ſingular ideas about religion; and the ignorance of their teachers daily augments this monſtrous evil. They are as firmly perſwaded of the reality of witches, fairies, enchantments, nocturnal apparitions and ſortileges, as if they had ſeen a thouſand examples of them. Nor do they make the leaſt doubt about the exiſtence of Vampires; and attribute to them, as in Tranſilvania, the ſucking the blood of infants. Therefore when a man dies ſuſpected of becoming a vampire, or *Vukodlak*, as they call it, they cut his hams, and prick his whole body with pins; pretending, that after this operation he cannot walk about. There are even inſtances of Morlacchi,

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lacchi, who imagining that they may poſſibly thirſt for children's blood after death, intreat their heirs, and ſometimes oblige them to promiſe to treat them as vampires when they die.

The boldeſt Haiduc would fly trembling from the apparition of a ſpectre, ghoſt, phantom, or ſuch like goblins as the heated imaginations of credulous and prepoſſeſſed people never fail to ſee. Nor are they aſhamed, when ridiculed for this terror, but anſwer, much in the words of Pindar: "fear that proceeds from ſpirits, cauſes even the ſons of the Gods to fly." The women, as may be naturally ſuppoſed, are a hundred times more timorous and viſionary than the men; and ſome of them, by frequently hearing themſelves called witches, actually believe they are ſo. The old witches are acquainted with many ſpells; and one of the moſt common is to transfer the milk of other people's cows to their own. But they can perform more curious feats than this; and I know a young man, who had his heart taken out by two witches, while he was faſt a ſleep, in order to be roaſted and eat by them. The poor man did not perceive his loſs, as may eaſily be imagined, till he awoke; but then he begun to complain, on feeling the place of his heart void; a begging friar, who lay in the ſame place, but was not aſleep, beheld the whole anatomical operation of the witches, but could not hinder them, becauſe they had charmed him. The charm however, loſt its force, when the young man without the heart awoke; and both wanted to chaſtiſe the witches; but they, rubing themſelves with a certain ointment, flew away. The friar went to the hearth, took the heart, then well broiled, and gave it to the young man to eat; which he had no ſooner done, than he was perfectly cured, as may reaſonably be ſuppoſed. The good father told this ſtory, and will tell it often, ſwearing to the truth of it; and

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and the people dare not ſuſpect that wine had made him ſee one thing for another, and that the two women, one of whom was not old, had flown away for quite another reaſon than for being witches. The enchantreſſes are called *Geſtize*; and that the remedy may be at hand, there are others called *Bahornize*, equally well ſkilled in undoing the ſpells; and to doubt of theſe two oppoſite powers, would be worſe than infidelity.

A moſt perfect diſcord reigns in Morlacchia, as it generally does in other parts, between the Latin and Greek communion, which their reſpective prieſts fail not to foment, and tell a thouſand little ſcandalous ſtories of each other. The churches of the Latins are poor, but not very dirty: thoſe of the Greeks are equally poor, and ſhamefully ill kept. I have ſeen the curate of a Morlack village ſitting on the ground in the church-yard, to hear the confeſſion of women on their knees by his ſide; a ſtrange poſture indeed! but a proof of the innocent manners of thoſe good people, who have the moſt profound veneration for their ſpiritual paſtors, and a total dependance upon them, who on their part, frequently make uſe of a diſcipline rather military, and correct the bodies of their offending flock with the cudgel. Perhaps this particular is carried to an abuſe as well as that of publick penance, which they pretend to inflict after the manner of the ancient church. They moreover, through the ſilly credulity of thoſe poor mountaineers, draw illicit profits, by ſelling certain ſuperſtitious ſcrolls and other ſcandalous merchandize of that kind. They write in a capricious manner, on the ſcrolls called *Zapiz*, ſacred names which ought not to be trifled with, and ſometimes adding others very improperly joined. The virtues attributed to theſe *Zapiz* are much of the ſame nature as thoſe which the Baſilians attributed to their monſtrouſly

cut

cut ſtones. The Morlacchi uſe to carry them ſewed to their caps, to cure, or to prevent diſeaſes; and they alſo tie them for the ſame purpoſe to the horns of their oxen. The compoſers of this trumpery take every method to maintain the credit of their profitable trade, in ſpite of its abſurdity, and the frequent proofs of its inutility. And ſo great has their ſucceſs been, that not only the Morlacchi, but even the Turks near the borders, provide themſelves plentifully with Zapiz from the chriſtian prieſts, which not a little increaſes their income, as well as the reputation of the commodity. The Morlacchi have alſo much devotion, and many of our ignorant people have little leſs, to certain copper and ſilver coins of the low empire; or to Venetian cotemporary pieces, which paſs among them, for medals of St. Helen, and they think they cure the epilepſy and ſuch like. They are equally fond of an Hungarian coin called *petizza*, which has the Virgin and Child on the reverſe; and one of theſe is a moſt acceptable preſent to a Morlack.

The bordering Turks not only keep with devotion the ſuperſtitious *Zapiz*, but frequently bring preſents, and cauſe maſſes to be celebrated, to the images of the Virgin; which is doubtleſs in contradiction to the Alcoran; yet when ſaluted, in the uſual manner in that country, by the name of Jeſus, they do not anſwer. Hence when the Morlacchi, or other travellers, meet them on the confines, they do not ſay *huaglian Iſſus*, Jeſus be praiſed; but *huaglian Bog*, God be praiſed.

Concerning the Manners of the MORLACCHI.

Innocence, and the natural liberty of paſtoral ages, are ſtill preſerved among the Morlacchi, or at leaſt, many traces of them remain

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remain in the places fartheſt diſtant from our ſettlements. Pure cordiality of ſentiment is not there reſtrained by other regards, and diſplays itſelf without any diſtinction of circumſtances. A handſome young Morlack girl, who meets a man of her diſtrict, on the road, kiſſes him affectionatly, without the leaſt malice, or immodeſt thought; and I have ſeen all the women and girls, all the young men and old, kiſſing one another as they came into the church yard on a holiday; ſo that they looked as if they had been all belonging to one family. I have often obſerved the ſame thing on the road, and at the fairs in the maritime towns, where the Morlacchi came to ſell their commodities. In times of feaſting and merriment, beſides the kiſs, ſome other little liberties are taken with the hands, which we would not reckon decent, but are not minded among them; and when they are told of it, they anſwer, it is only toying and means nothing. From this toying however, their amours often take their beginning, and frequently end ſeriouſly when the two lovers are once agreed. For it very rarely happens, in places far diſtant from the coaſt, that a Morlacco carries off a girl againſt her will, or diſhonours her; and were ſuch attempts made, the young woman would, no doubt be able to defend herſelf; the women in that country being generally very little leſs robuſt than the men. But the cuſtom is for the woman herſelf to appoint the time and place of being carried off; and ſhe does ſo in order to extricate herſelf from other ſuitors, from whom ſhe may have received ſome love token, ſuch as a braſs ring, a little knife, or ſuch like trifles. The Morlack women keep themſelves ſomewhat neat till they get a husband, but after marriage they abandon themſelves totally to a loathſome dirtineſs, as if they intended to juſtify the contempt with which they are treated. Indeed it cannot be ſaid that even the young women have a grateful odour, as they are

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uſed to anoint their hair with butter, which ſoon becoming rancid, exhales no agreeable effluvia.

Of the MORLACK *Women's Dreſs.*

The dreſs of the Morlack women, is different in different parts of the country, but it appears every where ſtrange to an Italian. That of the unmarried women is the moſt complex and whimſical, in reſpect to the ornaments of the head; for when married they are not allowed to wear any thing elſe but a hankerchief, either white or coloured, tied about it. The girls uſe a ſcarlet cap, to which they commonly hang a veil falling down on the ſhoulders, as a mark of their virginity. The better ſort adorn their caps with ſtrings of ſilver coins, among which are frequently ſeen very ancient and valuable ones; they have moreover earings of very curious work, and ſmall ſilver chains with the figures of half moons faſtened to the ends of them. But the poor are forced to content themſelves with plain caps, or if they have any ornaments, they conſiſt only of ſmall exotic ſhells, round glaſs beads, or bits of tin. The principal merit of theſe caps, which conſtitute the good taſte, as well as vanity of the Morlack young ladies, is to attract and fix the eyes of all who are near them, by the multitude of ornaments, and the noiſe they make on the leaſt motion of their heads. Hence half moons of ſilver, or of tin, little chains and hearts, falſe ſtones and ſhells, together with all kinds of ſplendid trumpery, are readily admitted into their head dreſs. In ſome diſtricts, they fix tufts of various coloured feathers, reſembling two horns on their caps; in others, tremulous plumes of glaſs; and in others, artificial flowers, which they purchaſe in the ſea port towns; and it muſt be confeſſed, that in the variety of thoſe capricious and barbarous ornaments,

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ornaments, ſometimes a fancy not inelegant is diſplayed. Their holiday ſhifts are embroidered with red ſilk, and ſometimes with gold, which they work themſelves, while they attend their flocks; and it is ſurpriſing to ſee how nicely this work is executed. Both old and young women wear about their necks large ſtrings of of round glaſs beads of various ſize and colour; and many rings of braſs, tin, or ſilver on their fingers. Their bracelets are of leather covered with wrought tin, or ſilver; and they embroider their ſtomachers, or adorn them with beads or ſhells. But the uſe of ſtays is unknown, nor do they put whalebone or iron in the ſtomacher. A broad woolen girdle ſurrounds their petticoat, which is commonly decked with ſhells and of blue colour, and therefore called *Modrina*. Their gown, as well as petticoat, is of a kind of ſerge; and both reach near to the ankle; the gown is bordered with ſcarlet and called *Sadak*. They uſe no *modrina* in ſummer, and only wear the *Sadak* without ſleeves over a linen petticoat or ſhift. The girls always wear red ſtockings, and their ſhoes are like thoſe of the men, called *opanke*. The ſole is of undreſſed ox hide, and the upper part of ſheep's ſkin thongs knotted, which they call *apute*, and theſe they faſten above the ankles, ſomething like the ancient *coturnus*.

The unmarried women, even of the richeſt families, are not permitted to wear any other ſort of ſhoes; though after marriage they may, if they will, lay aſide the *opanke*, and uſe Turkiſh ſlippers. The girls keep their hair treſſed under their caps, but when married they let it fall diſhevelled on the breaſt; ſometimes they tie it under the chin; and always have medals, beads, or bored coins, in the Tarrar or American mode, twiſted amongſt it. An unmarried woman who falls under the imputation of want

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want of chaſtity, runs the riſk of having her red cap torn off her head publickly in church by the curate, and her hair cut by ſome relation, in token of infamy. Hence, if any of them happen to have fallen into an illicit amour, they, commonly, of their own accord, lay aſide the badge of virginity, and remove into another part of the country.

Of their Marriages, Pregnancy, and Childbirth.

Nothing is more common among the Morlacchi than marriages concluded between the old people of the reſpective families, eſpecially when the parties live at a great diſtance, and neither ſee nor know each other; and the ordinary motive of theſe alliances is, the ambition of being related to a numerous and powerful family, famous for having produced valiant men. The father of the future bridegroom, or ſome other near relation of mature age, goes to aſk the young woman, or rather a young woman of ſuch a family, not having, commonly, any determinate choice. Upon this, all the girls of the houſe are ſhewn to him, and he chuſes which pleaſes him beſt, though generally reſpecting the right of ſeniority. A denial in ſuch caſes is very rare, nor does the father of the maid enquire much into the circumſtances of the family that aſks her. Sometimes a daughter of the maſter is given in marriage to the ſervant, or tenant, as was uſual in patriarchal times; ſo little are the women regarded in this country. On theſe occaſions, however, the Morlacchi girls enjoy a privilege which ours would alſo wiſh to have, as in juſtice they certainly ought. For he who acts by proxy, having obtained his ſuit, is obliged to go and bring the bridegroom; and if, on ſeeing each other, the young people are reciprocally content, the marriage is concluded, but not otherwiſe. In ſome parts, it is the

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the cuſtom for the bride to go to ſee the houſe and family of the propoſed huſband, before ſhe gives a definitive anſwer; and, if the place or perſons are diſagreeable to her, ſhe is at liberty to annul the contract. But, if ſhe is contented, ſhe returns to her father's houſe, eſcorted by the bridegroom and neareſt relations. There the marriage day is appointed; on which the bridegroom comes to the bride's houſe, attended by all his friends of greateſt note, who, on this occaſion, are called *Svati*, and are all armed, and on horſeback, in their holiday cloaths, with a peacock's feather in their cap, which is the diſtinctive ornament uſed by thoſe who are invited to weddings. The company goes armed, to repulſe any attack, or ambuſh, that might be intended to diſturb the feaſt. For, in old times, theſe encounters were not unfrequent, according to the records of many national heroic ſongs. In one of theſe is told the ſtory of *Janco Vojvod* of *Sebigne*, who was cotemporary with the famous *George Caſtriotich*, named *Scanderbeg*, and betrothed to *Jagna* of *Temeſwar*, whoſe brothers, being not his friends, when he came to conclude the marriage, engaged him in the punctilio of performing certain feats, upon condition, that, if he ſucceeded, he was to have the bride, and, if not, he was to loſe his life. Theſe were, as the ſong relates; that, he was to pierce an apple ſtuck on the point of a ſpear, with his dart, at a certain diſtance; then he was to ſpring over nine horſes, placed one beſide another, at one leap; and, laſtly, to diſcover his future ſpouſe, among nine young women, all covered with veils. *Janco*, it ſeems, was a valiant ſoldier, but not expert in ſuch trials of ſkill; however, his nephew undertook them in his place, and no objection was made, as they ſay, is the cuſtom in a certain iſland, to hire one to fight for another at a boxing match. The expedient made uſe of by *Zeculo*, *Janco*'s nephew, to know the

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the bride among the other nine young women, was ſingular, and merits a prolongation of my digreſſion. He ſpread his mantle on the ground, threw a handful of gold rings on it, and then gallantly addreſſed the Ladies as follows; "Lovely maid, "who art deſtined to be *Janco*'s wife, do thou pick up theſe "golden rings, and wear them; but if any other dares to touch "one of them, I will cut off her arm at a blow." The nine young women were very naturally afraid of the danger, and did not chuſe to advance, ſo Janco's bride collected the rings, and thus the nuptial games were finiſhed. When, upon trials of this nature, one of the parties found himſelf excluded, and another preferred, as he thought, unjuſtly, he commonly had recourſe to arms for redreſs; and much blood was often ſhed in thoſe combats; and many tombs of the ancient Slavi, are ſtill to be ſeen in the woods, and deſert places of Morlacchia, whereon theſe feuds are engraved in coarſe baſs-relief.*

The bride is conducted to a church, veiled, and ſurrounded by the *Svati* on horſeback, and the ſacred ceremony is performed amidſt the noiſe of muſkets, piſtols, barbaric ſhouts, and acclamations, which continue till ſhe returns to her father's houſe, or to that of her huſband, if not far off. Each of the *Svati* has his particular inſpection, as well during the cavalcade, as at the marriage feaſt, which begins immediately on their retnrn from church. The *Parvinaz* precedes all the reſt, ſinging ſuch ſongs, as

* Some of theſe tombs are to be ſeen, particularly in the wood between *Gliubuſki* and *Vergoraz*, on the banks of the *Trebeſat*; and along the military way, that leads from *Salona* to *Narona*. At *Levrech*, *Ciſta*, *Mramor*, and between *Soign* and *Imoſki*, there are many. There is one iſolated at *Dervenich*, in *Primoji*, called *Coſtagnichia-Greb*; and another at *Zakucaz*, which, they ſay, was erected on the ſpot where the combat happened.

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as he thinks ſuitable to the occaſion. The *Bariactar* brandiſhes a lance with a ſilken banner faſtened to it, and an apple ſtuck on the point; there are two *Bariactars*, and ſometimes four, at the more noble marriages. The *Stari-ſvat* is the principle perſonage of the brigade, and the moſt reſpectable relation is commonly inveſted with this dignity. The *Stacheo*'s duty is to receive and obey the orders of the *Stari-ſvat*. The two *Diveri*, who ought to be the bridegroom's brothers, when he has any, are appointed to ſerve the bride. The *Knum* correſponds to our ſponſors; and the *Komorgia*, or *Sekſana* is deputed to receive, and guard the dowery. A *Ciaous* carries the mace, and attends to the order of the march, as maſter of the ceremonies; he goes ſinging aloud, *Breberi, Davori, Dobra-ſrichia, Jara, Pico*, names of ancient propitious deities. *Buklia* is the cup bearer of the company, as well on the march, as at table; and all theſe offices are doubled, and ſometimes tripled, in proportion to the number of the company.

The firſt day's entertainment is ſometimes made at the bride's houſe, but generally at the bridegroom's, whether the *Svati* haſten immediately after the nuptial benediction; and at the ſame time, three or four men run on foot to tell the good news; the firſt who gets to the houſe has a kind of towel, embroidered at the ends, as a premium. The *Domachin*, or head of the houſe, comes out to meet his daughter in law, and a child is handed to her, before ſhe alights, to careſs it; and, if there happens to be none in the houſe, the child is borrowed from one of the neighbours. When ſhe alights, ſhe kneels down, and kiſſes the threſhold. Then the mother in law, or, in her place, ſome other female relation, preſents a corn ſieve, full of different kinds of grain, nuts, almonds, and other ſmall fruit,

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fruit, which the bride ſcatters upon the *Svati*, by handfuls, behind her back. The bride does not ſit at the great table, the firſt day, but has one apart for herſelf, the two *Diveri* and the *Stacheo*. The bridegroom ſits at table with the *Svati*, but in all that day, conſecrated to the matrimonial union, he muſt neither unlooſe, nor cut any thing whatever, The *Knum* carves his meat, and cuts his bread. It is the *Domachin*'s buſineſs to give the toaſts; and the *Stari-ſvat* is the firſt who pledges him. Generally the *Bukkara*, a very large wooden cup, goes round, firſt to the Saint Protector of the family; next to the proſperity of the holy faith; and, ſometimes, to a name, the moſt ſublime, and venerable. The moſt extravagant abundance reigns at theſe feaſts, and each of the *Svati* contributes, by ſending a ſhare of proviſions. The dinner begins with fruit, and cheeſe, and the ſoup comes laſt, juſt contrary to our cuſtom. All ſorts of domeſtick fowls, kid, lamb, and ſometimes veniſon, are heaped in prodigal quantities upon their tables; but very rarely a Morlacco eats veal, and perhaps never, unleſs he has been perſuaded to do it out of his own country. This abhorrence to calves fleſh is very ancient among the Morlacchi. St. Jerome, againſt Jovinian, * takes notice of it: and *Tomeo Marnavich*, a Boſnian writer, who lived in the beginning of the laſt age, ſays, that the Dalmatians, uncorrupted by the vices of ſtrangers, abſtained from eating calves fleſh, as an unclean food, even to his days. † The women relations, if they are invited, never dine at table with the men, it being an eſtabliſhed cuſtom

* At in noſtra Provincia ſcelus putant vitulos devorare. D. Hier. contra Jovin.

† Ad hanc diem Dalmatæ, quos peregrina vitia non infecere, ab eſu vitulorum non ſecus ac ab immunda eſca abhorrent. Jo. Tom. Marn. in op. ined. de Illyrica, Cæſaribusque Illyricis.

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cuſtom for them to dine by themſelves. After dinner, they paſs the reſt of the day in dancing, ſinging ancient ſongs, and in games of dexterity, or of wit, and fancy; and in the evening, at a convenient hour after ſupper, the three ritual healths having firſt gone round, the *Knum* accompanies the bridegroom to the matrimonial apartment, which commonly is the cellar, or the ſtable, whither the bride is alſo conducted by the *Diveri*, and the *Stacheo*; but the three laſt are obliged to retire, and the *Knum* remains alone with the new married couple. If there happens to be any bed prepared better than ſtraw, he leads them to it, and having untied the bride's girdle, he cauſes them both to undreſs each other reciprocally. It is not long ſince the *Knum* was obliged to undreſs the bride entirely, but that cuſtom is now out of uſe; and, inſtead of it, he has the privilege of kiſſing her as often as he pleaſes, wherever he meets her; which privilege may poſſibly be agreeable for the firſt months, but muſt ſoon become very diſguſtful. When they are both undreſſed, the *Knum* retires, and ſtands liſtening at the door, if there be a door. It is his buſineſs to announce the conſummation of the marriage, which he does, by diſcharging a piſtol, and is anſwered by many of the company. The next day, the bride, without her veil, and virginal cap, dines at table with the *Svati*, and is forced to hear the coarſe equivocal jeſts of her indelicate, and ſometimes intoxicated company.

Theſe nuptial feaſts, called *Sdrave* by the ancient Huns, are by our Morlacchi called *Sdravize*, from whence our Italian word *Stravizzo* is undoubtedly derived. They continue three, ſix, eight or more days, according to the ability or prodigal diſpoſition of the family where they are held. The new married wife gets no inconſiderable profit in theſe days of joy. And it uſually

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amounts to much more than all the portion ſhe brings with her which often conſiſts of nothing but her own cloaths, and perhaps a cow; nay, it happens, ſometimes, that the parents, inſtead of giving money with their daughter, get ſomething from the bridegroom by way of price. The bride carries water every morning, to waſh tbe hands of her gueſts, as long as the feaſting laſts; and each of them throws a ſmall piece of money into the baſon, after performing that function, which is a very rare one among them, excepting on ſuch occaſions. The brides are alſo permitted to raiſe other little contributions among the Svati, by hiding their ſhoes, caps, knives, or ſome other neceſſary part of their equipage, which they are obliged to ranſom by a piece of money, according as the company rates it. And, beſides all theſe voluntary, or extorted contributions already mentioned, each gueſt muſt give ſome preſent to the new married wife, at taking leave the laſt day of the *Sdravize*, and then ſhe alſo diſtributes ſome trifles in return, which commonly conſiſts in ſhirts, caps, handkerchiefs, and ſuch like.

The nuptial rites are almoſt peciſely the ſame through all the vaſt country inhabited by the Morlacchi; and thoſe in uſe among the peaſants, and common people of the ſea coſt of Dalmatia, Iſtria, and the iſlands, differ but little from them. Yet among theſe particular varieties, there is one of the iſland *Zlarine*, near *Sebenico*, remarkable enough; for there, the *Stari-ſvat* (who may naturally be ſuppoſed drunk at that hour) muſt, at one blow, with his naked broad ſword, ſtrike the bride's crown of flowers off her head, when ſhe is ready to go to bed. And in the iſland of *Pago*, in the village of *Novoglia*, (probably the *Giſſa* of ancient Geographers) there is a cuſtom more comical, and leſs dangerous, but equally ſavage and brutal. After the marriage

marriage contract is ſettled, and the bridegroom comes to conduct his bride to church; her father, or mother, in delivering her over to him, makes an exaggerated enumeration of her ill qualities; "Know, ſince thou wilt have her, that ſhe is good for "nothing, ill natured, obſtinate, &c." On which the bridegroom, affecting an angry look, turns to the young woman, with an "Ah! ſince it is ſo, I will teach you to behave better;" and at the ſame time regales her with a blow, or a kick, or ſome piece of ſimilar gallantry, which is by no means figurative. And it ſeems in general, that the Morlack women, and perhaps the greateſt part of the Dalmatians, the inhabitants of the cities excepted, do not diſlike a beating, either from their huſbands, or lovers.

In the neigbourhood of *Derniſh*, the women are obliged, during the firſt year after marriage, to kiſs all their national acquaintances who come to the houſe, but after the firſt year, they are diſpenſed from that compliment, and, indeed, they become ſo intolerably naſty, that they are no longer fit to practiſe it. Perhaps the mortifying manner in which they are treated by their huſbands, and relations, is, at the ſame time, both the cauſe and effect of this ſhameful neglect of their perſons. When a Morlack huſband mentions his wife, he always premiſes, by your leave, or begging your pardon. And when the huſband has a bedſtead, the wife muſt ſleep on the floor near it. I have often lodged in Morlack houſes, and obſerved, that the female ſex is univerſally treated with contempt; it is true, that the women are by no means amiable in that country; they even deform, and ſpoil the gifts of nature.

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The pregnancy and births of thoſe women, would be thought very extraordinary among us, where the ladies ſuffer ſo much, notwithſtanding all the care, and circumſpection uſed before and after labour. On the contrary, a Morlack woman neither changes her food, nor interrupts her daily fatigue, on account of her pregnancy; and is frequently delivered in the fields, or on the road, by herſelf; and takes the infant, waſhes it in the firſt water ſhe finds, carries it home and returns the day after to her uſual labour, or to feed her flock. The cuſtom of the nation is invariable in waſhing the new-born infants in cold water; and the Morlacchi may juſtly ſay of themſelves what the ancient inhabitants of Italy did:

Durum a ſtirpe genus natos ad flumina primum
Deferimus, ſævoque gelu duramus, et undis.

And it is certain that the cold bath produces not ſuch bad effects on infants, as *Machard* pretends;* who condemns the preſent cuſtom of the Scotch and Iriſh, as prejudicial to the nerves, and derives the immerſions of the ancient Germans from ſuperſtition and ignorance.

The little creatures, thus careleſsly treated in their tendereſt moments, are afterwards wrapt in miſerable rags, where they remain three or four months, under the ſame ungentle management; and when that term is elapſed, they are ſet at liberty, and left to crawl about the cottage, and before the door, till they learn to walk upright by themſelves; and at the ſame time acquire that ſingular degree of ſtrength, and health with which the Morlacchi are endowed, and are able, without the leaſt

* Memoires de la Soc. Oecon. de Berne, an. 1764. iii partie.

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leaſt inconvenience, to expoſe their naked breaſts to the ſevereſt froſt and ſnow. The infants are allowed to ſuck their mother's milk while ſhe has any, or till ſhe is with child again, and if that ſhould not happen for three, four, or ſix years, they continue all that time to receive nouriſhment from the breaſt. The prodigious length of the breaſts of the Morlacchian women is ſomewhat extraordinary; for it is very certain, that they can give the teat to their children over their ſhoulders, or under their arms. They let the boys run about, without breeches, in a ſhirt that reaches only to the knee, till the age of thirteen or fourteen, following the cuſtom of *Boſſina*, ſubject to the Porte, where no *Haraz*, or capitation tax is paid for the boys till they wear breeches, they being conſidered before that time as children, not capable of labouring, or of earning their bread. On the occaſion of births, and eſpecially of the firſt, all the relations, and friends, ſend preſents of eatables to the woman in childbed, or rather, to the woman delivered; and the family makes a ſupper of all thoſe preſents together. The women do not enter the church till forty days after child birth.

The Morlacchi paſs their youth in the woods, attending their flocks and herds, and in that life of quiet, and leiſure, they often become dexterous in carving with a ſimple knife; they make wooden cups, and whiſtles adorned with fanciful baſſ-reliefs, which are not void of merit, and at leaſt ſhew the genius of the people.

Of the Food of the MORLACCHI.

Milk coagulated in various ways, is the ordinary nouriſhment of the Morlacchi; they ſometimes give it an agreeable acid by the infuſion of vinegar, whereby the curd becomes extremely re-

refreſhing; and the whey is their favourite common drink, nor is it at all unpleaſant to a ſtranger's taſte. When a gueſt arrives unexpectedly, their readieſt and beſt diſh, is new cheeſe fried with butter. They are not much accuſtomed to bread backed after our manner, but they make cakes of millet, barley, Indian corn, and ſometimes of wheat, which they bake, or toaſt on the hearth every day, for preſent uſe; but wheaten bread is hardly ever ſeen in the cottages of the poor. They make a large proviſion of our cabbages, like thoſe uſed in Germany; and roots, and all kinds of eſculent herbs, which they find in the woods, or in the fields, ſerve them for a cheap and ſalutary diet. But garlick, and ſhalots are the food moſt univerſally pleaſing to that people, next to roaſt meat, which is their moſt luxurious diſh. I remember to have read ſomewhere, that *Stilpo*, being reproved for going to the temple of Ceres, after having eaten garlick, which was forbid, anſwered; "give me ſome-"thing better, and I will leave it off." But the Morlacchi would not accept even of that condition; and if they did ſo, it is more than probable they would repent it: for it is reaſonable to think, that the conſtant uſe of theſe plants, corrects in part, the bad quality of their water, and contributes to keep them long healthy, and robuſt. Nothing is more common in that country, then to ſee very old men, ſtrong, active and lively to an extraordinary degree; and I am inclined to think that this is partly owing to the garlick, and their regular vegetable diet. Yet, notwithſtanding the large quantity of onions, garlick, and ſhalots which the Marlacchi conſume, it is wonderful to obſerve, that in their own vaſt, and rich fields, not one of theſe articles is produced; and thus they find themſelves obliged, year after year, to give away no inconſiderable ſum to the peple of Ancona, and Rimini, which might ſo eaſily be ſaved. It would certainly be a ſalutary violence, or rather

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rather an act of paternal charity, to force them to cultivate thoſe products, without which they cannot live, and which require ſo ſmall a degree of induſtry. It would perhaps be looked upon with deriſion, if on this occaſion, premiums were offered them to ſerve themſelves; and yet, that is doubtleſs the beſt, and eaſieſt way of improving agriculture.

A late governor-general of Dalmatia introduced and encouraged the cultivation of hemp in Morlacchia, and it ſucceeded well; but the publick encouragement not continuing, induſtry alſo decayed, and now only a ſmall voluntary cultivation goes on, which nevertheleſs ſomewhat diminiſhes the ſum required to purchaſe foreign linen, and maintains a few looms in the country.

Many a *Macrobius* is to be found in Morlachia, eſpecially on the brows of hills, where the purity of the air joined to frugality, and a laborious life, lengthens out old age without infirmity. Yet I did not find, nor indeed enquire after a *Dandon*; * though I thought I ſaw more than one old man who might be compared to the old Engliſh Parr; but the Morlacchi are ſo careleſsly ignorant, that they can give no account of their own age, long before they come to that period of their exiſtence.

Of the Utenſils, Cottages, Cloaths, and Arms of the MORLACCHI.

A Morlack in eaſy circumſtances has no other bed than a coarſe blanket made of goats hair, and of Turkiſh manufacture; very few of the richeſt people in the country have ſuch a piece of luxurious furniture as a bed after our faſhion; and there are not many who have ſo much as a bedſtead; which however, when they happen to get made in their rough manner,

* Alex. Cornelius memorat Dandonem Illyricum D. annos vixiſſe Plin. l. 7. c. 48.

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ner, they ſleep in, between two goat hair blankets, without ſheets, or any other bedding. The greateſt part of the inhabitants, content themſelves with the bare ground, wrapt in the uſual blanket, and only ſometimes a little ſtraw under it. But in ſummer they chuſe to ſleep in the open air, perhaps to be delivered from the domeſtick inſects. Their houſhold furniture conſiſts of few, and ſimple articles, ſuch as ſhepherds, and peaſants, little advanced in arts, require. Their houſes are not often covered with tiles, or ſlates; and when they have any beams intended to ſupport a ſecond floor, the family's wardrobe is placed on them, and may be imagined well provided where there is ſo much magnificence; yet the ladies ſleep on the floor, even in ſuch noble houſes. I have been lodged in one of them, where ſeveral of theſe women were grinding corn till paſt midnight, ſcreaming certain diabolical ſongs, in the ſame place where I was laid to ſleep, and where ten others were ſtretched on the ground, and actually faſt aſleep, notwithſtanding their frightful vociferation. The Morlacchi, who have little or no correſpondence with the ſea towns, and are at a great diſtance from them, have ſeldom any other houſes but cottages covered with ſtraw, or *zimble*; ſo they call a kind of laths, uſed inſtead of tiles. The animals inhabit the ſame cottage, divided from the maſters, by a ſlight partition made of twigs, and plaiſtered with clay, and the dung of cattle; the walls of the cottage are either of the ſame materials, or of large ſtones laid one upon another, without cement.

The fire place ſtands in the middle of the cottage, and the ſmoke finds its way out at the door, there being rarely any other aperture. Hence every thing within theſe wretched habitations is varniſhed with black, and loathſome with ſmoke; not excepting the milk, which forms a great part of their ſuſtenance,

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nance, and of which they are very liberal to ſtrangers. Their cloaths, perſons, and every thing, in ſhort, contract the ſame ſmokey ſmell. The whole family ſits round this fire place, in the cold ſeaſon; and, when they have ſupped, lay themſelves down to ſleep in the ſame place where they ſat at ſupper; for, in every cottage, they have not even benches to ſit, and to lie upon. They burn butter inſtead of oil, in their lamps; but for the moſt part they uſe pieces of cleft fir, in lieu of candles, the ſmoke of which ſometimes tinges their muſtaches curiouſly. A very few rich Morlacchi have houſes in the Turkiſh faſhion, with ſtools, and ſome few of our moveables; but in general, the richeſt of them live but a ſavage kind of life. Although they have no idea of cleanlineſs in their habitations, yet, in one reſpect, they are nicer than we are; nor do they fail to reproach us on that account, and call us barbarous, and beaſtly; and it is a real fact, that no man, nor woman of that nation, let the diſorder be ever ſo ſevere, or painful, was ever known to eaſe nature within the cottage; even dying perſons are carried out to perform that operation in the open air; and if a ſtranger ſhould, through ignorance, or contempt, pollute their houſe in that manner, he would ſcarcely eſcape with his life, and certainly not without very ill treatment.

A Morlacco cloaths himſelf with great plainneſs, and œconomy. The *Opanke* ſerve for ſhoes, both to men and women, and under them they wear a kind of ſhort woolen ſtocking, called *Navlakaza*, which reaches above the ankle, and joins to the breeches, whereby all the leg is covered. The breeches are of coarſe white ſerge, and they draw them tight about their waiſt, like a purſe, by means of a woollen ſtring. Their ſhirt is very ſhort, and over it they wear a ſhort doublet, which they call *Jacerma*, and in winter they add a kind of ſhort cloak, made

of very coarſe red cloth, and call it *Kabaniza*, or *Japungia*. On their head they wear a red cloth cap, and above it, a ſort of cylindrical turban called *Kalpak*. They ſhave their heads, leaving only a ſmall tuft behind, like the Poles and Tartars. They bind their loins with a ſtrong reticular fillet of woollen yarn, and ſometimes of ſilk: and in this fillet, or bandage, and their breeches, they carry all their neceſſary implements; ſuch as, one or two piſtols ſtuck in behind, and before, a very large knife, which they call *Hanzar*, with the handle of braſs, ſet round with falſe ſtones. This knife is often made faſt to a light braſs chain rolled about the bandage; and near it is placed a horn, with greaſe for their arms, or for themſelves. Next follows a little bag with their tinder box, and money, if they have any; and then their tobacco in a dried bladder. The tobacco pipe is placed behind, the reed ſtuck in below their ſhirt, and the bowl appears without. No Morlacco ever goes out of doors without his gun upon his ſhoulder.

The chiefs of the nation, however, are better dreſſed; and their good taſte in cloaths may be ſeen by plate IV. which repreſents my good landlord of *Coccorich*.

Of their Muſick and Poetry, Dances and Diverſions.

The Morlacchi have their ruſtick aſſemblies, eſpecially in houſes where there are ſeveral young women; and in theſe the memory of ancient national ſtories is perpetuated. A muſician always attends theſe meetings, and ſings the old *piſme* or ſongs, accompanying them with an inſtrument called *guzla*, which has but one ſtring, compoſed of many horſe hairs. The tune, to which theſe heroic ſongs are ſung, is extremely mournful, and monotonous, beſides, they bring the ſound a little through the noſe, which agrees perfectly well with their inſtrument; the verſes

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verſes of the moſt ancient traditional ſongs are of ten ſyllables, not rhimed. Their poetry does not want ſtrength of expreſſion, but the ſmalleſt ray of imagination rarely appears in it, and the little that is attempted is ſeldom happy. Yet thoſe ſongs have a great effect on the minds of the hearers, who are at pains to get them by heart; and I have ſeen ſome of them ſigh, and weep at a paſſage, which did not appear to me the leaſt moving. Perhaps the force of the Illyric words, better underſtood by the Morlacchi, might produce this effect; and perhaps, as ſeems to me more probable, their artleſs minds, little ſtored with ideas, might more readily be affected with any turn of expreſſion that appeared to them extraordinary. That kind of ſimplicity, and want of order, which are frequently ſeen in the ancient Provencal Romancers, form, in general, the principal character of the Morlacchian poetry. Yet they have ſome pieces not deficient in point of order; only, whoever reads, or hears them, muſt be contented to ſupply the want of detail, and preciſion, which the Morlacchi neglect, and which are carefully attended to by the civilized nations of Europe, in all compoſitions, whether in proſe, or verſe. I could find none of their ſongs of well authenticated date, before the fourteenth century; and I fear the reaſon is analogous to that, by which we loſt ſo many Greek and Latin books, in the times of religious barbariſm. I ſuſpect, nevertheleſs, that ſomething more ancient might be found, further within the country, among the *Merediti*, and the inhabitants of the Clementine mountains, who lead a paſtoral life, ſeparated entirely from the commerce of other nations. But, who can flatter himſelf to be able to penetrate with ſafety among thoſe unſociable, and ſavage tribes? I confeſs, I ſhould like ſuch a journey, and want not courage to attempt it; not only with the view of diſcovering ancient pieces of poetry, but to become

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become acquainted with the natural history of those countries, hitherto undescribed and unknown; and also with a view to discover some rare Greek, or Roman antiquities: but too many things are wanting to put such a project in execution.

I have translated several heroic songs of the Morlacchi, and some of them appear to me both well conducted and interesting; but I very readily allow, that they cannot be put in competition with the poems of the celebrated Scotch bard, which we have lately had the pleasure of seeing translated into our language, with true poetical spirit, by the *Abbé Cesarotti*, and republished in a more complete form, through the generous bounty of a noble countryman of the bard, who patronizes learning in all parts of Europe. Yet the Morlack poetry is not destitute of merit; and has, at least, the simplicity of Homer's times, and serves to illustrate the manners of the nation. The Illyrian language is also well adapted to poetry, and musick; being harmonious, and abounding with vowels; and yet it is almost totally abandoned, even by the civilized nations who speak it. Ovid, when he lived among the *Slavi* on the Black Sea, condescended to exercise his poetical talent, by writing verses in their language, and gained applause from those savages; but his Roman pride returning, he was ashamed of having profaned the Latin harmony.* The city of *Ragusi* has produced many elegant poets, and some poetesses in the Illyrian tongue; and among them *Giovanni Gondola* is much celebrated; nor

* Ah! pudet, et Getico scripsi sermone libellum,
Structaque sunt nostris barbara verba modis.
Et placui (gratare mihi) cæpique Poetæ
Inter humanos nomen habere Getas,

De Pont. iv. Ep. 13.

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nor were the other cities, and iſlands of Dalmatia without their poets; but the many Italianiſms now introduced into their dialects have corrupted the ancient ſimplicity of the language. Even the dialect of the Morlacchi is become equally barbarous, and full of foreign words, and phraſes, as I am informed by thoſe who have a perfect knowledge of the language, and particularly by *Matteo Sovich*, archdeacon of *Oſſero*, the moſt learned man of that country. Yet, I confeſs, that the Boſnian dialect, ſpoken by the inland Morlacchi, is more harmonious, in my opinion, than the littoral Illyrian; but I hope not to incur the diſpleaſure of the maritime Dalmatians by this declaration, as I do not pretend to be a competent judge of the matter.—Let us, if you pleaſe, return to the ſongs.

A Morlacco travels along the deſert mountains ſinging, eſpecially in the night time, the actions of ancient *Slavi* Kings, and barons, or ſome tragic event; and if another happens to be travelling on a neighbouring mountain, he repeats the ſame verſe, when the other has ſung it, and this alternation continues, as long as they can hear each other. A loud, and long howl, which is an *oh!* barbarouſly modulated, conſtantly precedes the verſe, the words of which are pronounced rapidly, almoſt without any modulation, which is all reſerved for the laſt ſyllable, and ends with another long howl, by way of trill, raiſed louder and louder, while the breath laſts.

Although the Morlacchi uſually ſing their ancient ſongs, yet other poetry is not altogether extinguiſhed among them; and their muſicians, after ſinging an ancient piece, accompanied with the *guzla*, ſometimes finiſh it with ſome extempore verſes, in praiſe of the perſonage by whom they are employed; and

ſome-

ſome of them are capable of ſinging extempore during the whole entertainment; always accompanying the voice with the *guzla*. There is alſo ſome written poetry among them, when the memory of a ſignal event happens to be preſerved in that manner. The whiſtle, or flagelet, and a kind of paſtoral bag-pipe, are the common muſical inſtruments among the Morlacchi. Theſe traditional ſongs contribute much to maintain the ancient cuſtoms; hence, their rites, games, and dances are derived from very remote originals.

Their games and diverſions almoſt all conſiſt in trials of ſtrength, or agility; ſuch as, leaping, running, or flinging a large heavy ſtone. They dance to the ſound of the bag-pipe, and the voices of their ſingers, a favourite dance, which they call *kolo*, or circle, which ſoon turns into *ſkocci-goſi*, that is, high dancing, All the dancers, men, and women, taking hold of each other's hands, form a circle, and turn ſlowly round, to the harſh notes of the inſtrument. Then the circle changes its form, ſometimes into an elipſis, and ſometimes a ſquare, according as the dance becomes more animated; and, at laſt, transforms itſelf into the moſt violent ſprings and leaps, in which the women alſo join, and the whole becomes wild confuſion. The Morlacchi have an incredible tranſport for this rude dance, for neither the fatigues of the day, nor a long journey, nor hunger itſelf can detain them from it, or from continuing ſeveral hours, with very little intermiſſion, in ſuch a violent exerciſe.

On the medical Art among the MORLACCHI.

It happens frequently enough, that inflammatory fevers are the immediate conſequences of theſe violent dances juſt mentioned;

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tioned; in which caſe, and in all others of the like nature, the Morlacchi do not apply to the phyſician, becauſe, happily for them, there is none of that profeſſion among them, but cure themſelves, after their own way. A large draught of a ſpirituous liquor, which they call *rakia*, is commonly their firſt medicinal potion; and if that does not effectuate the cure, they repeat the doſe, together with a large infuſion of pepper, or gun powder. After this, they cover themſelves up, in winter; or lie down in the hotteſt rays of the ſun, if in ſummer, *to ſweat the illneſs*, as they expreſs it. Their cure for agues, is more methodical; the firſt and ſecond day, they take a glaſs of wine, in which as much pepper as they can take up between their finger and thumb, has been infuſed for ſeveral hours; and the third and fourth day, the doze is doubled; and I have actually ſeen more than one Morlacco perfectly cured by this ſtrange febrifuge. Their remedy for obſtructions is to lay a large flat ſtone on the ſick perſon's belly; and for rheumatiſms, they uſe a moſt violent friction, which, at leaſt, renders the patient's back quite livid, and ſometimes ſtrips off the ſkin. Sometimes, they apply a red hot ſtone, wrapt in wet rags, for rheumatic pains; and they uſe to drink a great quantity of vinegar, to recover their appetite, after a long ſeries of fevers. But the laſt remedy of all, which is taken only in deſperate caſes, is ſugar, when they can find any; and they put it into the mouths of dying perſons, to make them paſs into the other world with leſs bitterneſs. *Criptamus* and *Chamœphitis* are uſed for articular pains, and they frequently apply horſe leeches to the ſwelled, or aching parts. They apply a red ochrous earth, frequently found in the fields, as the beſt remedy for excoriations, or wounds; and the ſame uſe is made of it in ſome parts of Bohemia, and Miſnia, where

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where that earth abounds.* *Griſelius*, who takes notice of this practice, had tried the experiment often with ſucceſs upon himſelf; as I have alſo done in Dalmatia. The Morlacchi are very dexterous in ſetting diſlocated, or broken bones, without having ſtudied oſteology like our ſurgeons, who, notwithſtanding, lame us frequently, by the rules of art. They perform phlebotomy with an inſtrument like that uſed for horſes, and yet there is no example of any bad accident happening by that coarſe operation.

Funerals of the MORLACCHI.

The family weeps and howls over the dead, while they lie in the houſe, and when they are carried out to be buried, much in the ſame manner as with us. But the Morlacchi have ſeveral cuſtoms peculiar to themſelves, on theſe occaſions; ſuch as, whiſpering in the ear of the dead perſon, and giving expreſs commiſſions for the other world. After this ceremony is finiſhed, the body is covered with a white cloath, and carried to church, where the lamentations begin anew, and the praiſes of the deceaſed are ſung, by the relations, or others appointed for that purpoſe, weeping. After the corpſe is buried, the whole company, together with the curate, returns to the houſe, where there is a ſtrange mixture of feaſting, and lamentation. The men let their beards grow a long time, in ſign of mourning; a cuſtom derived from the Jews, as is that of unleavened bread, purifications, and ſeveral others. Violet or blue coloured caps are alſo the mark of mourning. The women wear black or blue handkerchiefs, and cover all the red of

* Suppl. Act. Nat. Curioſ. Dec. 1. an. 2. Obſ. 78.

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of their garments with ſomething black. During the firſt year, the Morlack women go, every holiday, to renew their lamentation, ſtrowing flowers, and ſweet herbs upon the grave. And if neceſſarily detained from that viſit, they, next time, make a formal excuſe to the dead, giving a minute account of the cauſe of their neglect. They alſo frequently aſk news about the other world, and propoſe many curious interrogations. All theſe ceremonies are ſung in a kind of verſe, in a doleful tone; and ſometimes the girls accompany the women, in order to learn theſe funeral arts, and form a concert truly diſmal.

Thus I have laid before your Excellency the moſt remarkable cuſtoms of a people hitherto little known to the different nations of Europe.——I will not affirm, that the account I have given of their manners and cuſtoms agrees exactly with every village, and diſtrict of the Morlacchi; yet, as I have travelled over a very large tract of their country, and through diſtant parts of it, I can venture to affirm, that the differences are but ſmall; and I ſhall think the pains and labour I have taken well beſtowed ſhould this account contribute to your entertainment, and that of the public.

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TO THE

CAV. ANTONIO VALLISNIERI,

PROFESSOR OF NATURAL HISTORY,

IN THE

UNIVERSITY OF PADUA.

Of the Courſe of the River KERKA, *the* TITIUS *of the Ancients.*

THE neceſſity of travelling at random through a vaſt kingdom, where every part of natural hiſtory is ſtill unknown, has, as you will eaſily imagine, made me loſe much time and labour. The want of perſons capable of furniſhing any uſeful intelligence, is the greateſt inconvenience that I have met with; not that the maritime towns of Dalmatia are deſtitute of men of talents, and learning, but the ſtudy of natural hiſtory is not yet introduced among them, and therefore they are of little uſe to the curious in that branch of ſcience. Hence it is, that not having a convenient number of fixed points to which I could direct my journies, I have been obliged to trace out the line myſelf, or to follow thoſe already marked by nature, ſometimes along the windings of the ſhore, and ſometimes following the courſe of the rivers within land.

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Of the true Sources of the River KERKA.

One of the rivers which I have followed with the greateſt attention, is the *Titius* of the ancients, now called Kerka or Karka, by the people of the country; it was, in Roman times, the boundary between Liburnia and Dalmatia. The ſources of this river are marked in all the maps, much farther up than they really are; and even the moſt accurate chorographers of Dalmatia have confounded with the channel of the Kerka, a torrent which falls into it from a precipice, conveying the eventual waters of a moderate extent of rocky mountains, known by the inhabitants under the name of *Herſuvaz*. This ridge of Herſuvaz joins the bottom of the mountain Dinara with that of Gnat, and divides the plains watered by the Cettina, which is the *Tiburus* of the geographers, from the extenſive vallies that are watered by the *Titius*.

This river forms itſelf into a large channel, within a hundred paces of the cavern from whence it iſſues. The upper bed of which carries off the mountain waters, is thirty feet wide, but it has only a ſhort ſpace to run before it comes to Tapolye. * This torrent brings along with it great quantities of a calcarious earth, which has a coagulating quality, producing tartarious concretions. The ſtone of the Kerka, compoſed by theſe mountain waters, is a beautiful ſpecies of *Phytotypolithus*, ſometimes more, and ſometimes leſs compact, in proportion to the greater or leſſer declivity of the waters by which it is formed; and retains the impreſſions of various

* Tapolye has its denomination from the poplars which are common there; the popular being called *Tapola* in Illyric.

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various plants, which uſually grow in marſhes and rivers, or on their banks. * This kind of tartarous concretion is not only curious but uſeful, being very convenient for building either walls or arches, as it is eaſily worked, reſiſts the action of the air and is not weighty. The torrent juſt mentioned as having its courſe higher than what can properly be called the ſource of the Kerka, is not a permanent ſtream; for towards the middle of Auguſt, when I ſaw it, the cataract from whence it falls was nearly dry. The height of the upper part of this cataract, above the bed of the Kerka, where it iſſues out of the cavern, is about a hundred feet perpendicular; and when it is full of water, muſt make a magnificent appearance, The ridge of the precipice is of a kind of ſand-ſtone coated with long graſs and moſs; and is curved, forming as it were an arch, under which are ſeveral cool grottos, all narrow at the entrance, and entirely defended from the ſun. The ſides of the mountain which form the banks of the Kerka in that place, are all turned upſide down, and ſhew the moſt extravagant confuſion in their ſtratifications. They are ſteep and in ſome places perpendicular; the marble is of the common whitiſh kind. Sometimes there are pieces of a very hard ſpotted or compound *Lava*, which ſtrikes fire and is of a dark aſh colour. I there obſerved again the ſame phænomenon which before ſtruck me, in the ride from Spalatro to Cliſſa, on the ſides of the mountain, where I ſaw at a diſtance the

* *Stalactites vegetabilia incruſtans.* Linn. Syſt. Nat.
Porus aquæ cruſtaceus cirea alia corpora concretus. Wall.

The bodies of the plants rot after the incruſtation, and there remains nothing but the impreſſion on the ſtone.

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the borders of ſeveral ſtrata, that ſeemed to deſcribe arches of a circle with the extremities turned upwards. This phenomenon was ſtill more complicated at Tapolye, where not only one order of arches appears, but frequently two deſcribed one above the other upon the ſame baſe; and they are reunited at their internal extremities, ſomething like a houſe top, pointed or horned as it were, after the Chineſe manner. The reſt of the mountain is all disjointed; and the bed of the caſcade is uneven, craggy, and ruinous. The waters of the Kerka iſſue out below from a dark cavern in great abundance. I was tempted to explore this cavern, and accordingly got into a little boat, ſomewhat like an American canoe, provided with lighted chips of pine, accompanied by my friend Mr. Hervey. We were not wholly unſucceſsful, though we had great difficulty to defend ourſelves from the tartarous protuberances of the vault, and to puſh forward againſt the current; our lights were ſoon extinguiſhed, by the quantity of little drops, which conſtantly fell from the rocks above; and advancing to a place, where the river falls with great noiſe, through a narrow and ſteep channel, we found our boat to be in danger of overſetting, by taking in too much watter. We retreated, and advanced more than once; and I make no doubt, that, had our boat been better contrived, and fitted out for the purpoſe, we ſhould have proceeded much further, and, perhaps, have been able to walk on the ſubterraneous banks of the river. It is to be remarked, that the mountains of Tapolye make a part of the ſame marble chain, as thoſe of Jarebiza, from whence the river Cettina iſſues in an oppoſite direction. There are corn mills on the Kerka, at a very little diſtance from its ſource; the wheels are placed horizontally, and the *radii* ſhaped like ſpoons. Theſe kind of wheels, which are very convenient where there is little water, may be ſeen among the

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the machines deſcribed by the biſhop *Fauſto Veranzio* of Sebenico.

Of the VULCANIC HILLS, *which lie between* TAPOLYE *and* KNIN.

The diſtance from Tapolye to Knin is five miles, either by land or water. In travelling along the heights, I ſaw many ruinous maſſes, and conſiderable tracts of gravelly *breccia*. From thence, deſcending along the river, after a ſecond viſit to the caſcade, we ſtopped at two little hills, oppoſite to each other; the one of common marble, and gravel hardened into *breccia*, the other moſtly vulcanic. The laſt, called *Capitul*, merits obſervation, on account of the great variety of vulcanic matter contained in it. Amongſt other kinds, there is a very light whitiſh ſtone, with a mixture of yellow *mica*, manifeſtly produced by ſubterraneous fire, and which, though not perforated, I think, may be named a micaceous kind of pumice ſtone, conſidering its poroſity, lightneſs, and vulcanic origin. Examined with the microſcope, it appears compoſed of ſmall vitreſcent ſemifluxed ſand, and ſeems to conſiſt of the ſame principles, as an excellent ſort of tripoli, of which I found a vein at the bottom of the ſame hill. There are alſo ferruginous *ſcoriæ*, black and porous; ſand ſtones, both red and yellow; a kind of arenaceous *breccia*, of a violet coloured ground, ſpotted with white; a ſpecies of micaceous ſlate;* heaps of *pozzolana*, of a reddiſh colour, conſolidated

* Mica ſquamoſa alba. Wall. ſect. 74. 3.
Mica ſquamoſa, rigidula, argentata. Linn. 58. 3.
Mica compacta, membranis ſquamoſis, argentea. Wolterſdorff. min. 17.

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dated almoſt to the hardneſs of ſtone;* and many ſtones reſembling porphyry, which retain manifeſt marks of ancient fuſion. This hill of *Capitul*, in regard to the ſubſtances of which it is compoſed, as well as in its form, bears a great reſemblance to *Monte-Nuovo*,† which ſtands inſolated near our other Euganean hills of vulcanic origin. But *Capitul* contains ſtill a greater variety of different ſubſtances than *Monte-Nuovo*. On the ſummit of the hill, are ſcattered pieces of *breccia*, here and there, and on all the neighbouring vulcanic hills, to the right of the river, as far as the ſmall town of Knin, ‡ which has the title of a biſhoprick, but not the reſidence. This town is thought, by moſt of the writers on Illyric affairs, to be the *Arduba* of the ancients, famous, not ſo much for the defence it made againſt *Germanicus*, as for the untameable courage of the women, who rather choſe to throw themſelves and children into the fire, or the river, than become ſlaves to the victorious Romans.

Concerning KNIN, MONTE CAVALLO *and* VERBNIK

No place is now found on either of the rivers, Kerka, or Cettina, that agrees better than Knin with the deſcription given by Dion Caſſius of the caſtle of Arduba.* The river Kerka on one ſide,

* Terra Puteolana rubra. Wall.
Cæmentum induratum. Cronſt. 209.

† *Monte-Nuovo* of the Euganean hills, ſeems, by its name, to indicate a poſterior birth. The ſubſtance of which it is compoſed, demonſtrates its origin from ſubterraneous fire, like the *Monte-Nuovo* of Pozzuoli.

‡ In the publick records, it is called Tnin, Tnina, Tninium, and Tnena. The name of Knin, or Klin is perhaps derived from Klin, *cuneu*, as it actually ſtands on the point of a neck of land

* "Germanicus alſo took Arduba, a caſtle——————very ſtrong, and almoſt entirely ſurrounded by a rapid river running at the foot of it. Dion Caſſius lib. 56.

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ſide, and the Butim ſchiza on the other, water the narrow neck of land, on which the preſent caſtle ſtands. But the hiſtorian mentions only one river, and not a confluence of two, and calls it rapid, which agrees not with the Kerka, which at preſent runs under the walls of Knin, with a very ſlow and gentle courſe.

As no pains are taken to keep this river within its banks, it often overflows them, and forms a marſh directly under Knin, which renders the air unhealthy in the neighbourhood. I ſaw no antiquities of any kind there, excepting Roman coins, of which there are many, and eſpecially of the times of the good Emperor *Antoninus*. Ancient Venetian coins, and thoſe of other cities and ſtates, of the middle age, are frequently found in theſe parts.

Over againſt Knin, on the other ſide of the Kerka, ſtands the hill called *Monte Cavallo*, at the bottom of which, the Coſſovſchiza falls into the Kerka; the waters of the former deſcend from the vulcanic hills of Coſſovo, the lower parts of which are covered with turf, but it lies there uſeleſs.

Not many years ago, a canal was cut, with a view to draw off the water, which overflows theſe plains; but the work being abandoned too ſoon, that good intention was not anſwered. Monte Cavallo is now almoſt quite uncultivated, though there is a tradition at Knin, that, in paſt ages, it was famous for its exquiſite wine; as was alſo Verbnik, a hill contiguous to it. On this laſt hill, many kinds of vulcanic ſubſtances may be collected; among which, a reddiſh, brick coloured ſtone, mixed with a vetrified black and ſhining iron ſand, is remarkable. The top of the hill is of a calcareous aſh coloured ſtone, very

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compact, and full of marine bodies, like thoſe of the *Sete-communi* in the Vicentine. The high road divides Monte Cavallo from Verbnik; the bottoms of which are of a coarſe grained porous whitiſh limeſtone, tinged with reddiſh ochre. Half way up the hill, there is an irregular prominent maſs of a friable inferior ſort of granite, which ſeems to extend from its bowels, in a direction towards the contiguous hill. The breadth of this maſs above ground is about two hundred feet; the ſolidity of the ſubſtance is unequal, but always leſs than that of our Paduan granites. I frequently found pieces very much reſembling thoſe in the hills of Galzignano, among the ſandy ochrous ſtones thrown out by thoſe ancient volcanos.

Above this vulcanic matter of Monte Cavallo, there is a ſtratum of hard calcareous ſtone, and, above that, another of gravelly *breccia:* at the extremities, is a mixture of calcareo-marine, and vulcanic matter. The calcareo-marine maſs, and the ſtrata of gravelly *breccia*, which are alſo of the ſame nature, are much higher than the vulcanic ſubſtances; and if a little torrent, in the courſe of years, had not diſcovered them, it would ſcarcely have been imagined, that the interior parts of the Verbnik had ſuffered by ſubterraneous fire; for the confuſion and disjunction diſcernable on the outſide, would not have ſhewn from whence they were derived. Theſe parts are ſtill ſubject to frequent earthquakes; and, probably, were much more ſo, in early times; it is not eaſy to conceive, that, without the moſt violent agitations, whole ſtrata of rounded ſtones, which ſtill poſſeſs a great part of the heights, could be torn aſunder, and ſunk; and that new hills, of a ſubſtance that had undergone the action of fire, ſhould ariſe from that abſorption; and ſometimes that maſſes of ancient gravelly *breccia* ſhould be raiſed among them.

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The channel of the river muſt have ſuffered great changes, and one clear indication of it is, the ſteepneſs and height of the craggy caſcade of Topolye, from whoſe upper edge, if a line were drawn, it would reach above the tops of the new hills, and fall in with the ſide of Verbnik. Not far diſtant from Monte Cavallo ſtood the ancient Liburnian city of *Promona*, which coſt the Romans ſo much. The country round it is very rugged, and it would require time, and great leiſure to collect the remains of antiquity that are ſcattered up and down. The veſtiges of the wall which *Auguſtus* cauſed to be built by his ſoldiers, for fifty *ſtadii* of circuit, in order to cut off the communcation between the Illyrians, who had fortified themſelves in Promona and their allies of the neighbouring territories, are ſtill to be ſeen on the tops of thoſe craggy mountains. The Kerka paſſes between Verbnik, and the hill of Knin, through a narrow and crooked channel, which retards the current much; and the ſtream of Butimſchiza falls into it a little below, which occaſions a further impediment, by the quantity of ſand and gravel brought along with it, rendering dangerous the navigation, which is moreover often interrupted on this river by caſcades.

Of the confluent Waters, and Courſe of the River KERKA, *to the Monaſtery of St.* ARCANGELO.

The Butimſchiza takes its ſource at the foot of the hill of Stermizza, by the union of three ſmall currents, the largeſt of which, called *Czerni-potok*, or the black torrent; after running nine miles from mount Gelinach, in a winding courſe, it meets the water of Maracai, ariſing out of mount Pliſſiviza, and then after a courſe of ſix miles more, enters, together with

with the ſtream of Tiſcovci, into the bed of the largeſt torrent. The Tiſcovci, or Tiſcovaz, falls into the black torrent a little further up than the Maracai, proceeding from mount Vulizza, and traverſing the extenſive plains of Sarb and Dugopoglye, which the Vulizza and the hill Trubar divide from the plain of Grahavo, beyond the Venetian confines; and laſtly, not far from the heights of Knin, the ſtream Butimſchiza is augmented by the Plavnanſchiza, a water derived from the hill which commands the plain of Plavno, having firſt received the little torrent of Radugli-Potok, which, in ſome of the beſt maps, is named Radiglievaz. The confluence of ſo many torrents renders the Butimſchiza very ſtoney; and I am apt to think, that, from the immenſe quantities of ſand and gravel, which, at its mouth, are carried into the Kerka, occaſions the boggy ſtate of the plain of Knin, which would otherwiſe be very fertile; and I wonder that this has never been remarked, nor attended to by others. Perhaps the bridge over the torrent, juſt at its entry into the Kerka, contributes alſo, not a little to accumulate the rubbiſh before mentioned. This bridge is about two hundred geometrical paces long, and has ten arches; but is narrow, ill paved, and dangerous for horſes, as almoſt all the Turkiſh bridges are in theſe parts. It is probable, that, if the confluence of the Butimſchiza was more properly directed, and removed ſomewhat lower, the plain of Knin, might, in a great meaſure, be recovered. And I have no doubt, that this probability might be reduced to a demonſtration, by thoſe able men, whom the Government uſes to employ in ſuch caſes.

Six or eight miles lower, the river, which, though its channel is always conſiderable, yet is moſtly confined between ſteep perpen-

perpendicular rocks, meets with an impediment at Babovdol, and forms a ſmall caſcade. The ſtoney little iſland, which there obſtructs the current of the river, a little above it, forms a kind of lake, and cauſes the channel to be choaked with reeds, and other ſuch marſhy plants. Beſides, the tartarous ſediment of the waters conſtantly tends to raiſe the bed, which is divided by the Iſland of Babovdol, and conſequently the waters becoming daily higher, frequently overflow the neighbourhood of Knin, to the great detriment of the inhabitants. The courſe of this river was certainly not thus neglected in the times of the Romans; for not many years ago, in digging there, they found buried ſeven feet under ground, an architrave and cornice of Greek marble, elegantly adorned with baſs-reliefs, repreſenting feſtoons of flowers, tortoiſes, crocodiles, and other amphibious animals. This probably ſtood above the gate of ſome pleaſure houſe. The friars of Knin conveyed it to their convent, and broke and mangled it, according to the cuſtom of religious barbariſm, in order to make ſome ornament or other to the church. Suppoſing then, that the bed was actually deepened ſeven or eight feet more than it is, and the iſland joined to one of the ſhores, there would be leſs hindrance to navigation, and the deeper channel only remaining, the water would be leſs interrupted and might be directed in ſuch a manner as to render innundations, very rare, and leſs dangerous to the country. The ſituation, ſalubrity, and healthfulneſs of the air, on the very rich plains and heights about Knin, are objects of much importance, although the government ſeems hitherto not to have reflected upon it. Near the caſcade of Babovdol, in the crevices of the rocks, high above the river, I collected ſome fine ſpecimens of moſs, moſt beautifully incruſted. There are alſo *Piſolithi*, reſembling, in ſtructure, the bezoar of animals;

animals, and the *confetti* of Tivole, but not ſo white, and ſolid as the laſt. Amongſt the ſtones of the river, near Babovdol, are polypes. But I did not beſtow much attention upon them, ſince the diſcoveries of Trembley, Baker, and the celebrated Bonnet, have amply ſatisfied the curioſity of the publick upon theſe ſubjects.

Of the Ruins of BURNUM.

Travelling by land from Knin, to the monaſtry of the hoſpitable *Calogeri* of St. Arcangelo *, we kept in the road along the river, which runs from thence moſtly confined by hills of marble on both ſides, and rarely finds a communication with fields or villages. We ſaw many veſtiges of ancient Roman habitations along the deſert of Bukoviza: but miſerable veſtiges indeed! ſtones roughly hewn, with ſquare holes in them to fix the poles of tents, or ſuch like covering, lie ſcattered on both ſides of the road for upwards of a mile in length. Many fragments of inſcriptions are ſeen here and there, among which there is a piece of an iſolated pilaſter, adorned with baſs-reliefs at all the angles, and on it the remains of an ancient elogium, in very large letters, and well preſerved.

There is every reaſon to believe, that the city deſtroyed on this ſpot was the *Burnum* of *Procopius*, and the *Liburna* of *Strabo* †. The *Tabula Peutingeriana* places Burnum on the right of the

* The Calogeri of St. Arcangelo on the Kerka have a pious tradition, that St. Paul celebrated maſs in a little chapel contiguous to their convent. The Morlacchi, of the Greek church flock to that ſanctuary with great devotion, but poverty prevents their bringing rich gifts.

† *Merianus* (Topograph. Carniol.) had much leſs reaſon to place the ancient Burnum where Gottſchevia now ſtands; that ſpot was not inhabited in the Roman ages,

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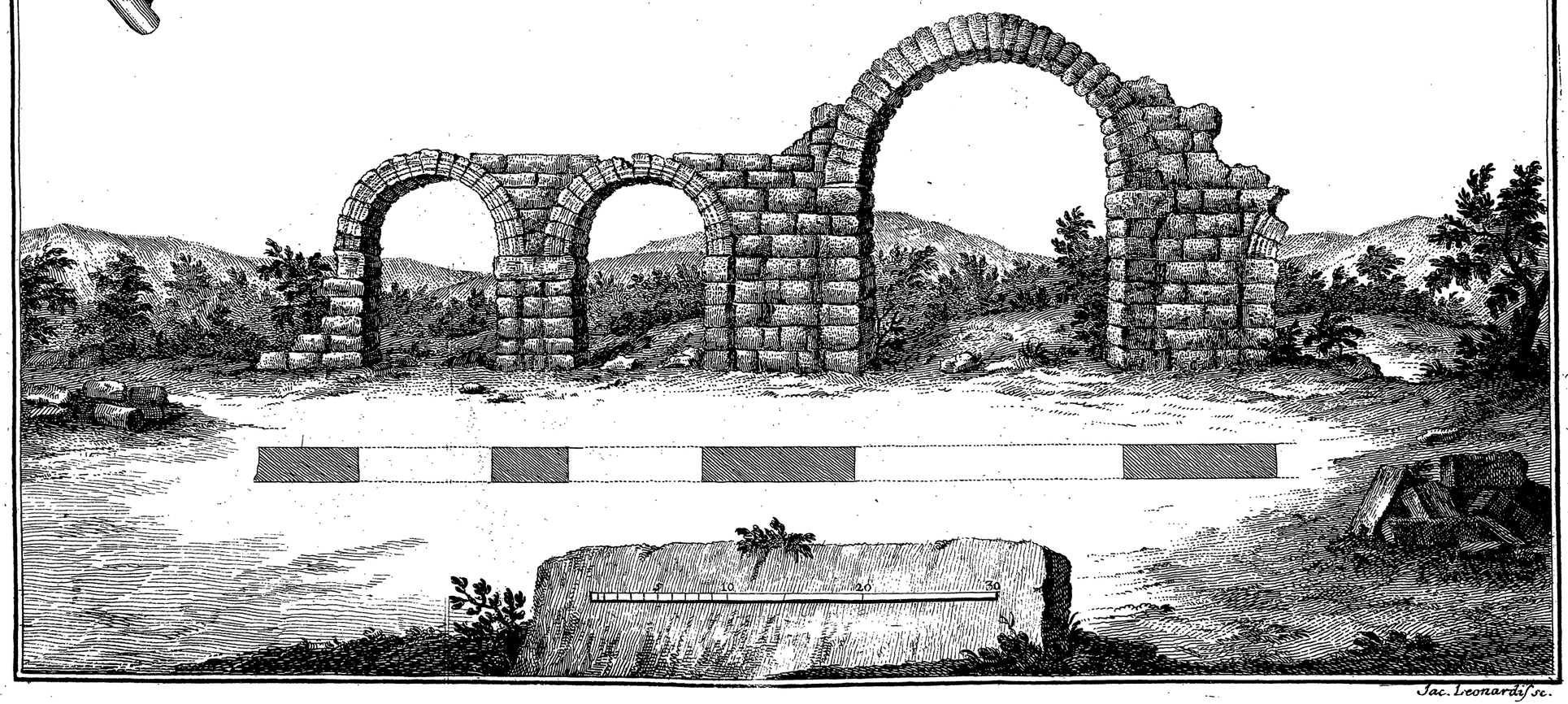
ARCHES called SVPPLIACERQVA from the Ruins of the CITY of BVRNVM on the right hand of the River KERKA.



Jac. Leonardis sc.

the river Titius, above Scardona, twenty four miles from *Nedinum*, which is the preſent *Nadino*, and reckoning from the three arches, ſtill exiſting by the name of *Suppliacerqua*, or the perforated Church, to this place, the diſtance is juſt twenty five miles. Not many years ago, there were five arches, two of which were taken away by a Morlacco for his own particular uſe. One of the remaining three has a chord of twenty one feet, and the other two, to the right of it, about half as much. Time has greatly damaged this ancient monument, which is built of a ſoft ſtone, like the *Moilon* of the French, and leſs compact than our ſtone of *Nanto*, or *San Gottardo*, in the Vicentine hills. Yet the remaining arch ſhews manifeſtly, that it was erected in the ages of good architecture; and if the rubbiſh around it could be eaſily removed, there is no doubt but the proportions would be found juſt. I had a drawing made of it (Pl. v.) but I cannot determine to what purpoſe theſe five arches of Suppliacerqua have been erected; but it ſeems that they were intended to ſtand iſolated, for the channels and cornices are equal on both ſides. Perhaps it was a triumphal monument of five arches. No other ruins are to be ſeen there about worthy of notice but large ſtones are found buried under ground, and in the neighbourhood are the remains of a Roman road. The preciſe place where the arches ſtand is called Suppliacerqua;

ages, and is far diſtant from the places mentioned by ancient geographers as near Burnum. Another geographer was ſtill more miſtaken in placing this ancient city on the river S. Vito, where Tarſatica indeed once ſtood, but not Burnum, which muſt have been two hundred miles diſtant from it. *V. Schonleben Carricola, antiq. et nova.*

and

and the neighbouring tract overſpread with ruins, goes by the name of *Trajanſkigrad*, which names *Trajanopolis*.

Courſe of the River to the Fall of Roſchiſlap.

The Kerka runs on the right of the arches, in a deep channel, between the hills, and forms a caſcade, near a poor cottage, which, beheld from above, appears to be delightfully ſituated; but the air cannot be good in ſuch a deep hollow; yet in the ſame low, damp valley, five or ſix miles furher down, is ſituated the monaſtery of the *Calageri* of S. Arcangelo, on the brink of the river, and at the foot of a hill, whoſe top is partly of gravelly *breccia*, and partly of common Dalmatian marble; but the bottom is of a ſubſtance totally different: The road which leads to the monaſtery, is cut through the ſide of the hill, and ſhews ſeveral ſtrata of ſciſſile marble, of various hardneſs, which ſometimes moulders between the fingers, ſometimes flies off in ſcales like flintſtone, and ſometimes is a concretion of rounded ſtones; and may be called a ſort of *calcareous, ſtony, gravelly earth*. It ſhould ſeem, that in former times, the river, having been choaked up by the ſudden fall of a large piece of the hill, had riſen far above its ordinary level, and left theſe ſtrata of mud, and pebbles. I examined the hardened mud with diligence; but could not diſcover the leaſt veſtige of marine bodies; from which I concluded, that its origin was from depoſition by the river. Large fragments of marble frequently fall from the impending hills, which form the almoſt perpendicular banks of the Kerka, as is evidently ſeen near the fourth caſcade at Roſchiſlap. The laſt rock, that was precipitated on the bank of the river by the violent earthquake in 1769, is a hundred and fifty feet high, and ſeventy two feet in cir-

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circumference. This maſs is compoſed of rounded ſtones, white, red, grey, and in ſhort of every colour, and degree of hardneſs. The greateſt part of thoſe which are coloured contain *Lenticulares*; and I found, in a broken piece of the ſame maſs what I had never diſcovered before; that is, *Lenticulares* calcined, and become perfectly white, their concamerations remaining ſtill entire, and, by the help of a good glaſs, perfectly diſtinguiſhable, and void. This maſs, which fell down from the higheſt part of the hill in 1769, adhered to a brow, that is now inacceſſible: in paſt ages, however, it muſt have been of leſs difficult acceſs; as there is the ſepulchral inſcription of an old ſoldier ſtill viſible on the exterior part of the fallen rock. If reaſon, led ſimply by repeated daily experience, were not ſufficient to prove, that the ancient ſtate of the ſuperficies of our globe has undergone very great changes, not only in thouſands, but even in hundreds of years, and eſpecially in the mountainous parts of it; it might be proved undeniably, by only obſerving this tract of country, through which the Kerka runs; and the ſame effects may reaſonably be ſuppoſed, in other tracts which border on rivers, or torrents. It would be well if thoſe were ſent hither, who, ſitting calmly in their own ſtudies, pronounce, that our earth is preciſely in the ſame ſtate now, as it was ſixty ages ago; and think they confirm their opinion by ſufficient proof, when they refer to the remains of far diſtant antiquity, which ſtill continue above ground, in elevated places; without taking notice of a much greater portion that lies buried. You have, more than once, been obliged to contend with ſuch reaſoners; and were plentifully furniſhed with examples of the partial, or total fall of mountains; of their deſtruction by the ſlow, corroſive action of undermining waters; and of the alteration of their ſtructure, and ſometimes

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of their entire ſubverſion, by volcanos: of the beds of rivers changed; of the encroachments, and receſſions of the ſea; of all which ſo many inſtances occur in hiſtory, and ſo many more are obvious to the eye of anatentive obſerver.

The caſcade of Roſchiſſap, ſeen in front, forms an agreeable proſpect, which muſt be magnificent towards the end of Autumn and in Spring. Yet as it can ſcarcely be expected to exceed the caſcade of Terni, I find its true point of view in the middle of ſummer. The river is three hundred geometrical paces broad below the caſcade, where a long and narrow bridge is built over it, of ſixty arches; rough, ill conſtructed, but a ſolid Turkiſh work. Between the bridge and the fall are ſeveral mills, and the water is divided into various canals. On the intermediate ſlips of earth are many trees, which are green and luxuriant, from the perennial moiſture. Sometimes the verdure is interrupted by the froth of the waters, which fall with impetuoſity, and noiſe, from a height of above twenty feet. Nor does the whole water of the river concur to form the various rivulets which beautify the caſcade; for a good part of it paſſes through the chinks of the rocks below. As far as I could diſcover, this river leaves no tartarious ſediment, or incruſtations, unleſs where it meets with reſiſtance and impediment; or where the declivity is conſiderable, and of courſe the current rapid. In the plain of Knin, where it runs ſlowly on an equal bed, it petrifies neither roots nor plants, although it waters many, becauſe it finds no reſiſtance. I believe it may be poſitively aſſerted, that the various falls which render the Kerka unnavigable, have been produced by rocks and maſſes tumbled from the hills into its channel. Hence the tartarious incruſtations finding room to increaſe among the apertures, and the unevenneſs of the maſſes, by length

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length of time, and the diſpoſition of the place, forced a part of the waters to take their courſe over them, there not remaining ſufficient paſſage below. I ſhould alſo ſuſpect, that no tartarious waters, excepting ſuch as proceed from hot mineral ſprings, will leave incruſtations where their current is ſlow; and that both hot and cold will produce them always, in proportion to the narrowneſs and declivity of the channels through which they run. If the incruſtations of a tartarous water grow to larger bulk in places of leſs rapid courſe and ſmaller declivity, than in others more narrow and inclined, the hardneſs and weight of the ſtone formed, in theſe laſt, will counterbalance the greater bulk of the firſt. In like manner, I have always obſerved, that in ſtillicidious caverns, the trunks or ſtems of the calcareo-ſpatous columns which ariſe from the ſubterraneous ſtrata, are more or leſs pure and compact, according to the height from whence the drops fall, which are impregnated with ſaline and cryſtalline particles. And the incruſtations formed by larger ſtillicides of water are always leſs ſolid, and conſequently more charged with earthly particles, and worſe coloured. Theſe ſtrata of gravelly *breccia*, which occupy the plain tops of the hills, between which the channel of the river is ſunk, are by nature eaſily diſpoſed to tumble down, and that not only along the bed, but alſo along the deep vallies and hollows which convey, or in former times, conveyed their eventual waters into the Kerka. I ſaw the bottom of a valley to the right of Roſchiſlap all covered with large pieces of rock, which had fallen from the heights; and on one of them I found the remains of a corroded and mutilated inſcription.

Courſe

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Courſe of the KERKA, *to the Caſcade of* SCARDONA.

The river, or rather torrent *Cicola*, which has its ſource under Gradaz, fifteen miles from Knin, runs likewiſe into the Kerka, after having received the waters of the *Verba*, augmented by thoſe of Mirilovich. On the right ſide of its banks lies the town of Derniſh, which the Turks gave up to the Venetians. The territory belonging to this place is extremely fruitful and pleaſant. Not far from Derniſh is the ſmall village Tribuje, probably the *Tribulium* of the ancients, where ſome miſerable veſtiges of Roman habitations are ſtill to be ſeen. It would be tedious, and diſagreeable to enlarge on the bad direction of the waters, as well as thoſe of the Butimſchiza, which I mentioned already. They might be made fountains of riches to thoſe diſtricts; and inſtead of that, they produce only miſery and reproach. Not far below Roſchiſlap is the iſland of Viſſovaz, which is only the top of a hill, the bottom being under water; it is inhabited by friars, faithful labourers in the vineyard of theſe places, which would be thought too fatiguing a life by moſt ſecular prieſts. The river is very broad here, but furniſhes no object of obſervation; it runs ſlowly, becauſe the fall at the mills of Scardona, though five miles further down, retards the current. This is the laſt, and moſt magnificent fall of the Kerka, and would be doubly ſo, if art had not profited, by the opportune ſituation of the place, to build many houſes, and mills. Here is formed an undulated ſpecies of *tophus*, of a ſaline grain, which might be taken, at firſt ſight, for foſſil wood. Novices in natural hiſtory often collect it as ſuch; tho' it is only the work of water, impregnated with tartarous particles. The lines denoting the diviſions of the little ſtrata, and the difference of time in which they were formed by the water, are,

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are, in ſuch caſes, pretended to be longitudinal fibres of the wood; and prejudiced eyes likewiſe eaſily diſtinguiſh the tranſverſals. A ſimilar error is alſo produced by ſome ſpecies of vulcanic ſtones, variegated jaſpers and flints, which repreſent knots and excreſcences, like thoſe on trees; and it is not eaſy to convince thoſe of their miſtake, who are not uſed to collect foſſils perſonally in the mountains, where every one may be convinced, who does not carry a great deal of prejudice along with him. *Simon Gliubavaz*, *Giovanni Lucio*, and *P. Farlati* after them, wrote, that, in former times, an aqueduct run from this fall of Scardona, to Zara, which is fifty miles diſtant; they fell into this error, by finding the remains of a mean brick canal along the banks of the river, on the right of the fall at the mills, reaching to the mouth of the lake; but this, in all appearance, conveyed the water no farther than Scardona. And, of the impoſſibility of bringing the water from thence to Zara, I have already ſpoken at large, in giving an account of the veſtiges of other aqueducts, which are ſeen near the ſea, in the diſtrict of that city. Scardona ſtood in very great need of aqueducts; for the waters of the lake, into which the Kerka falls, are brackiſh, almoſt throughout the whole year; and the ſprings do not ſupply a ſufficient quantity for ſuch a large population. The courſe of the river Kerka, from its ſources at Topolye, to its fall into the lake of Scardona, is not above thirty miles.

In riding from the monaſtry of S. Arcangelo to Scardona, within three miles of that city, I ſaw a little torrent, which, among other vulgar ſtones, carries along with it, heaps of a blueiſh ſtoney earth, full of marine foſſil bodies. On ſeeing theſe

adventitious

adventitious pieces, I ſearched further, and diſcovered in ſeveral places whole ſtrata of this earth, particularly near the top of the hill to the left of the road. The foſſil bodies obſervable in it, are *Nummularii*, *Lenticulares*, and *Porpitæ*, of a ſimilar figure, ſmall *nuclei* of *Bucarditæ*, many *fungitæ*, and articulations of *ſtellæ marinæ*. I found at Scardona, great quantities of *turbinitæ* in the common marble, and took various ſpecimens of them. Not far from this torrent, near a place called *Ruppe*, there are found large teeth of the *Canis Carcharias*, which anſwer to the deſcription given by Scilla, Tab. III. Fig. 1. I could not viſit the ſpot myſelf, but ſaw ſeveral of thoſe teeth in the poſſeſſion of creditable perſons, who aſſured me they were to be found in great quantities.

Of the City of SCARDONA, *and of ſome Paſſages in ancient Writers, concerning the Mineralogy of* DALMATIA.

No veſtiges now remain viſible of that ancient city, where the ſtates of Liburnia held their aſſembly, in the times of the Romans. I however tranſcribed theſe two beautiful inſcriptions, which were diſcovered ſome years ago, and are preſerved in the houſe of the reverend Canon Mercati. It is to be hoped, that, as the population of Scardona continues increaſing, new lands will be broken up, and conſequently more frequent diſcoveries made of the precious monuments of antiquity. And it is to be wiſhed, that the few men of letters, who have a ſhare in the regulation of this reviving city, may beſtow ſome particular attention on that article, ſo that the honourable memorials of their ancient, and illuſtrious country, which once held ſo eminent a rank among the Liburnian cities, may not be loſt, nor carried away. It is almoſt a ſhame, that only ſix legible inſcriptions actually

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tually exiſt at Scardona; and that all the others, ſince many more certainly muſt have been dug up there, are either miſerably broken, or loſt, or tranſported to Italy, where they loſe the greateſt part of their merit.

Roman coins are very frequently found about Scardona, and ſeveral valuable ones were ſhewn to me by that hoſpitable prelate Monſignor *Treviſani*, biſhop and father of the riſing ſettlement. One of the principal gentlemen of the place was ſo kind to give me ſeveral ſepulchral lamps, which are marked by the name of FORTIS, and, by the elegant form of the letters, appear to be of the beſt times. The repeated devaſtations, to which Scardona has been expoſed, have left it no traces of grandeur. It is now, however, beginning to riſe again; and many merchants of Servia, and Boſnia, have ſettled there, on account of the convenient ſituation for trade, with the upper provinces of Turkey. But the city has no fortifications, notwithſtanding the aſſertion of *P. Farlati* to the contrary.* In all my peregrinations through Illyrium, I have hitherto met with no mine of any kind of metal, excepting one of iron, not far from Seign, of which, alſo, they made a kind of myſtery to me, though I know not for what reaſon. They ſay, there are rich mines at Hotton, in the territory of Knin; but I did not go there; and little dependance can be made on ſuch popular reports, of greedy and ignorant people, who think they ſee gold and ſiver in all the *Peritæ*. There is no doubt, however, that Dalmatia, in ancient times, produced a great deal of gold, as ſeveral writers teſtify. Pliny, among others, who had the opportunity of knowing it, ſays, that under the emperor Nero, fifty pounds of gold were taken daily from the mines of that province, and that it was found:

* Illyr. Sacr. t. 1.

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found on the ſurface of the ground, *in ſummo ceſpite**. *Florus* writes, that *Vibius*, who was ſent by *Auguſtus* to ſubdue the Dalmatians, obliged that fierce people to work in the mines, and to cleanſe the gold. *Martial*, likewiſe, writing to Macer, calls Dalmatia *terra aurifera*, and it ſeems to have been his opinion, that the county about Salona particularly deſerved that appellation.

Ibis litoreas, macer, ſalonas;
Felix auriferæ colone terræ.

And it appears, by a verſe of *Statius*, in his *epithalamium* of Stella, that the gold of Dalmatia was become a proverb:

Robora Dalmatico lucent ſatiata metallo.

a paſſage that permits us not to doubt of either the exiſtence, or abundance of this precious metal. In the ſame manner ſome of our poets have called gold *Peruvian* metal, and their meaning is perfectly well underſtood.

Concerning the COMMON REPORTS *relative to* DALMATIAN MINERALOGY.

Notwithſtanding all theſe teſtimonies, which have induced ſeveral people to flatter themſelves with the hopes of finding treaſures; I cannot perſwade myſelf, that there are mines, either of gold, or ſilver, in the mountains along the coaſt, properly called Dalmatia; there not appearing at leaſt, any of the characters of mineral

* *Aurum qui quærunt ante omnia ſegullum tollunt (ita vocatur indicium.) Alveus ubi id eſt, arenæque lavantur, atque ex eo quod reſedit conjectura capitur ut inveniatur aliquando in ſumma tellure, penitus rara felicitate; ut nuper in Dalmatia, principatu Neronis, ſingulis diebus etiam quinquagenas libras fundens; cum jam inventum in ſummo ceſpite.* Plin. Hiſt. Nat. Lib. xxxiii. cap. 4.

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mineral mountains. Perhaps the inland mountain of Promina, where the city of *Promona* ſtood, may contain mines, as ſome Dalmatian writers affirm; but I have not yet been able to examine it with proper care and attention; I am inclined, however, to ſuſpect, that the Dalmatians have ſuffered themſelves to be impoſed upon, by the name of the mountain itſelf, through the apparent analogy it has to mines; though perhaps it may be originally derived *aprominendo*. I was told, that the ſmall river *Hyader*, now called *Salona*, from the ruins of the city which once bore that name, carries from its ſources, ſome little gold duſt in its ſand; and have heard it alſo aſſerted, that the poor inhabitants of its banks ſometimes collected it, though in very ſmall quantities: but on diligent enquiry, I found theſe reports without the leaſt foundation. I was alſo aſſured by ſeveral perſons, and even found it written, in the records of the province, which I examined for that purpoſe; that there is a rich mine of quickſilver, at a place called *Suhidolaz*, above Sebinico, but this I found abſolutely falſe. And indeed all my endeavours hitherto have given me but little light relative to this article. I am ſtill unacquainted with the topography of this vaſt country, having viſited only a part of it; but by all that I have been able to obſerve, it ſeems probable that no valuable mines are to be found in the calcarious mountains adjacent to the ſea, nor in the valleys watered by the Kerka, and Cettina. The ancient mines were probably further up the country, and then the confines of the province reached further inwards. If it be true that gold duſt is actually found in the ſand of the river Travrick in Boſſina, perhaps the rich mine, of which Pliny ſpeaks, is to be looked for along the courſe of that river, and about its ſources. I know not if this be the ſame river, from the bed of which there ariſes a briſk fountain of ſubacid water, which raiſes itſelf conſiderably

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above the ſuperficies of the current. I have been told that the Boſnians make uſe of this water to cure tertian agues; and that when put in veſſels and tranſported, it depoſed a ferruginous ſediment, &c. According to the accounts of many who have frequently travelled in Boſſina, it is a country well furniſhed with mineral mountains; and they ſay it has rich mines of gold and ſilver. The place where they are found goes by the name of *Srebrarniza*, which means, *country*, or *land of ſilver*, being derived from the word *Srebro*, which ſignifies *ſilver*, in all the Sclavonian dialects. I had a ſpecimen of that mine, and it reſembles the native ſilver of Potoſi. It is in ſmall thin leaves like moſs, and is found combined with pure yellowiſh quartz, but unmixed with it. Many other things were related to me concerning the foſſil hiſtory of Boſſina, but I think it improper to mention them, upon the ſimple report of others. I know by experience, that in facts of natural hiſtory, a prudent incredulity is very requiſite.

If the minute details into which I have occaſionally entered, have appeared ſometimes tedious, I hope you will not reproach me on that account. Exact preciſion is the firſt quality of an obſerver who aims at national advantage, by pointing out the places which want cultivation, and the advancement of natural ſcience, by deſcribing the productions of nature. Beſides theſe objects, I thought it my duty alſo to rectify the miſtakes which authors, who have wrote about this country, have fallen into; and I have conſulted the convenience of travellers, by indicating popular reports which I found to be falſe. Nor have I omitted to mention the remains of ancient ſettlements, though that belongs rather to the antiquary, than to the naturaliſt. I have, indeed, more readily taken notice of them, as they give a juſter idea of Dalmatia

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matia than we have generally entertained; for if it were that horrid country which it is often repreſented to be, ſo many Roman colonies would not have been planted in it.

Although I am not ignorant of the little influence of any publication, nor of the great prevalence of prejudice, yet I cannot help expreſſing my hopes, that my travels in theſe parts may, at ſome period or other, be of uſe and advantage to the Dalmatian nation; and I ſhould think myſelf the moſt fortunate of travellers, if, before I terminate my exiſtence here on earth, I were convinced that I had not exiſted in vain.

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TO THE

ABBE BRUNELLI,

PROFESSOR OF NATURAL HISTORY,

IN THE

UNIVERSITY OF BOLOGNA.

Of the Diſtrict of SIBENICO, *or* SEBENECO.

MY journey into Dalmatia having interrupted the regular and friendly correſpondence, which we have maintained for ſeveral years, you will, no doubt, have ſome curioſity to know the reſult of it. And as you are a lover of natural hiſtory, and appointed a Profeſſor of it in that Academy, where it flouriſhed under the labours of an Aldrovandi, Malpighi, and a Marſigli; and being likewiſe a moſt diligent ſearcher into records, that tend to throw any light on the literary hiſtory of former ages, as well as a good judge, and admirer of every part of foreign literature; there cannot be any perſon ſo well qualified as yourſelf, to reliſh the variety of my obſervations. I therefore addreſs a part of them to you, in teſtimony of my eſteem and friendſhip, and as ſome return for the uſeful intelligence which you frequently favour me with, from your City, where every part of literature, and every ſcience, meet with protection and encouragement.

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Of the City and Territory of SIBENICO.

The territory of Sibenico, of all the other provinces of Dalmatia that I have hitherto viſited, is, on account of the antiquities and natural productions, moſt worthy the attention of a curious traveller. It runs along the ſea for above thirty miles; reaches in ſome parts above twenty within land; and comprehends about ſeventy greater and ſmaller iſlands. The variety of the objects, the amenity of the ſituations, and the hoſpitality of a few polite and learned friends, among whom I name, with pleaſure, the family of Count *Franceſco Dragenich Veranzio*, and Count *Giacinto Soppe Papali*, would have determined me to have ſtaid in thoſe parts ſeveral months, making that city the centre of my marine and mountain excurſions. But the circumſtances of my commiſſion in Dalmatia forced me to haſten my departure from that neighbourhood, without being able to finiſh the ſeveral obſervations and remarks which I had begun. You, who know how much time is neceſſary to examine every minute particular in a country hitherto little explored, will not be ſurpriſed if my obſervations in this diſtrict appear a little imperfect, and in a great meaſure unworthy of the publick.

The City of Sibenico, which lies nearly forty miles in a right line from Zara, cannot boaſt a very illuſtrious origin. Thoſe who pretend that it aroſe out of the ruins of *Sicum*, a Roman ſettlement, where *Claudius* ſent a colony of veterans,* found their opinion on ſuch weak reaſons, that they merit not a confutation. The *Tabula Peutingeriana* places no other name of a town in Dalmatia,

* Plin. lib. 3. c. xxii. Tragurium civium Romanorum marmore notum; Sicum, in quem locum Divus Claudius veteranos miſit.

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Dalmatia, that has any likeneſs to *Sicum*, but *Siclis*, and that lay between Trau and Salona. Sibenico has no veſtige of what can be called antiquity; nor remains of walls, or ſtones of Roman workmanſhip. One ſingle inſcription only appears in the walls of the city, near the gate that leads to the harbour, and that was brought hither from the internal part of the territory, called *Campo di ſopra*, where, probably, in ancient times, *Tariona* ſtood. *Lucius* thinks that Sibenico was built by the Croats, in the times of the declenſion of the Empire; and *Giambatiſto Guiſtiniano*, who wrote a century before *Lucius*, ſays, in his manuſcript account of Dalmatia, that this city—"was founded by a "banditti, or *euſocchi*, as they are ſometimes called, who, before "they built it, uſed to live on the high rock where the caſtle now "ſtands; and when they diſcovered any veſſel near ſhore, they "came down, and, in their boats, which were concealed at the "foot of the rock, ſurrounded by a thick wood, went out and "plundered it; in proceſs of time they began to build ſome "cottages, incloſed with a kind of palliſades, called *ſibue*, from "whence the city got the name of Sibenico. The city, by lit-"tle and little, began to increaſe, by the concourſe of thoſe "robbers; and afterwards, when the ancient city of Scardona "was deſtroyed, many of its inhabitants are ſaid to have removed "to Sibenico, which though then it had not the name of a city, "obtained it ſometime after, and was governed ſome years by its "own inhabitants, without being ſubject to any prince. But "this liberty was of ſhort duration; for the king of Hungary, "who was at that time ſovereign of Dalmatia, began to tyrannize "over the people of Sibenico, who, impatient of the yoke, and "not able to bear the inſolence of the Hungarians, in regard to "their wives and daughters, as well as their ſubſtance, came to "the reſolution of ſubmitting voluntarily to the republick of Ve-

"nice,

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" nice, as being a juſt and equitable government; this happened " in 1412, on the 12th of July, under the moſt ſerene Doge *Mi-* " *chele Steno*, of happy memory."

But whatever may have been the true origin of this city, whether it was like that of Rome, or ſprung rather from a ſeries of ſmall augmentations, it has certainly the beſt and moſt agreeable ſituation of any city in Dalmatia; and, next to Zara, it is alſo the beſt built, and has the greateſt number of noble families, who are now as far from the barbarous manners of ancient pirates, as their houſes are unlike the former cottages, or *ſibice*. It is defended on one ſide by a caſtle ſituated on a hill, which held out againſt repeated attacks of the Turks; and towards the ſea, upon a narrow channel at the mouth of the harbour, by another fort, a noble work of *Sammicheli*, and whoſe gate is very like the celebrated gate of Verona, by the ſame architect. Among the buildings of Sibenico, the dome or cathedral, though in the ſtyle of the barbarous times, merits particular notice, for the magnificence of the fabrick, and much more for its roof, which is compoſed of large flat pieces of marble connected together; a work as bold as any other of a like nature, in the Roman times. In the xvith centry, the arts and ſciences flouriſhed in this city more than in any other of Dalmatia. It has ſeveral buildings in a good taſte of architecture; and has produced many eminent men worthy of particular notice.

Of Men of Letters who flouriſhed at SIBENICO, *in the* xvith *Century, Painters,* &c.

Among the illuſtrious men of Dalmatia, *Antonio Veranzio* of Sibenico deſerves, in every reſpect, the firſt place. Scattered remains

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remains of this great man are found in many cotemporary books, as well as in ſome of the writers on the affairs of Hungary after his time. But none of them have purpoſely wrote the hiſtory of his life, * which nevertheleſs, deſerves a diſtinguiſhed place, as well among men of political, as literary merit. Though I have neither leiſure nor abilities to enter upon ſuch a ſubject, yet I preſume it will be amuzing to relate ſuccinctly ſuch circumſtances of his life, as I had an opportunity of collecting from the valuable papers preſerved in the noble family of the counts *Draganich Veranzio*.

Antonio Veranzio was born the 29th of May, 1504, of Francis, a gentleman of Sibenico, and of Margherita Statileo, a lady of Trau. He paſſed the earlieſt part of his youth at Trau, with his maternal uncles: but returning to his native place, he had for preceptor *Elio Tolimero*, of whom ſome pieces of latin poetry, not without merit, are preſerved among the papers of Veranzio. After he was well grounded in the Greek and Latin authors, he was called to Viſprimio by the famous Biſhop and Ban Pietro Beriſlavo of Trau, who was his uncle by the mother's ſide, and of whom he learned the firſt rudiments of the military art. But this warlike biſhop being barbarouſly killed by the Turks, in 1520, Giovanni Statileo, a man of great authority at the court of Hungary, and biſhop of Tranſilvania, ſent for his two nephews, our Antonio, and his brother Michele. One of Veranzio's firſt literary productions ſeems to

 have

* Belius, in his *Hungaria nova*, vol. I; and Schmit *Archiepiſcopi Strigonienſis compendio dati*, gave a ſketch of the life of Veranzio; but both of them fell into miſtakes, and treated their ſubject in a dry manner. And *Szentivanius* believed that he was born in Tranſilvania.

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have been the life of his uncle Beriſlavo, which, a hundred years after, was appropriated, by a ſhameful plagiariſm, by Tomeo Marnavich, without changing almoſt a ſingle word *. About this time Antonio was ſent to the univerſity of Padua; but the diſturbances which broke out in the kingdom of Hungary, occaſioned his recal thither ſoon after. It appears, however, that he continued his ſtudies at Vienna, and afterwards at Cracow; in both which univerſities his brother Michele certainly ſtudied. Antonio, after his return into Hungary, was obliged to exert the utmoſt degree of patience in bearing the ill uſage of his uncle, who was a man of a harſh and obſtinate temper, and often treated both his nephews in a very mortifying manner, which Michele particularly could not bear. In the mean time Antonio ingratiated himſelf with *Steffano Broderico*, biſhop of Vacia, of whom there remains a good manuſcript commentary of the fatal day of *Mohez*, where he fought in perſon, and with the monk *Giorgio Utiſſenio*, who were both very powerful at the court of King John Sepuſius. In 1529, he was employed by that unfortunate monarch, in ſome difficult commiſſions, on the confines of his diſtracted kingdom; and attended him when he was beſieged in Buda by William Rogendolff, general of the malecontents. He obtained the poſt of Secretary of ſtate, and was made governor of old Buda; for both which he gave particular thanks to Broderico, in verſe. He went into Tranſilvania, by commiſſion from the king, to manage the affairs of the biſhoprick, in the room of Statileo; and it appears by his papers, that he not only copied the inſcriptions that were already diſcovered, but cauſed others to be dug up

* *Vita Petri Beriſlavi* Veſprim. Ep. Sclav. Dalm. & Croat. Bani, *Jo. Tomeo Marnavitio auctore.* Ven. ap. Evang. Deuch. 1620, in 8vo.

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up in places where any Roman ruins appeared. The ſiege of Buda being raiſed in 1530, he was ſent on public employment twice to Sigiſmund king of Poland, and twice to the republic of Venice. The year following he went to pope Clement VII. afterwards to Paul III. and immediately on his return into Hungary was diſpatched again to Sigiſmund. About the end of 1534, this celebrated man was ſent into France to Francis I. where he alſo returned on a ſecond embaſſy, and from thence paſſed over to England to Henry VIII. at whoſe court he was in the month of January, 1535. It is probable that, about this time, he contracted a friendſhip with the great *Eraſmus* of Rotterdam, and an eſteem for Melancthon. A letter from Eraſmus is ſtill carefully preſerved by the preſent count Franceſco Draganich Veranzio; and there is, among the manuſcript latin verſes of our Antonio, an epigram in praiſe of Melancthon. In his laſt will, made before he ſet out for France, are the following words; "*Mihi, ſi moriar, pompas ſepulchrales, aut miſſas fieri nolo ullas. Hoſpitale pauperum juvetur. Ego contentus ero ſi in Domino moriar:*" a circumſtance that proves, at leaſt, his charity to the poor. On his return to court, the king ſent him ambaſſador, with two other colleagues, to Ferdinand of Auſtria, king of Bohemia: but this embaſſy had not the deſired effect. king John died in 1540; and Veranzio, from whom there are two long letters, on this event, to Giovanni Statileo, then ambaſſador in France, ſeemed unalterably attached to the intereſts of the queen dowager Iſabella, and of John II. then a pupil. Iſabella ſent him ambaſſador, for the eighth time, to king Sigiſmund, on the occaſion of his marriage in 1543, and the ſpeech he made at his audience, which was printed at Cracaw, deſcribed, in ſuch ſtrong terms, the mournful circumſtances of the unhappy queen, that it drew tears from his hearers. After a

ſhort

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ſhort repoſe, he was ſent again, the ſame year, to king Ferdinand, by whom he was received with much diſtinction, and had the honour to dine at his table. It appears, that, about this time, his attachment to Iſabella began to cool; and her affairs took a very bad turn. In 1544, he reſigned the government of Tranſilvania to Georgio Utiſſenio, though againſt his will, as appears by the fragments of a dialogue that he wrote many years after. He continued, nevertheleſs, ſome months at Iſabella's court, and went, for the ninth time, into Poland, to negotiate affairs with Sigiſmund. After he had executed that commiſſion, he deſired leave to retire, and paſſed to Sibenico, from whence he ſoon departed again, taking two or three of his nephews along with him, one of whom was *Fauſtus*. There is reaſon to think that he made ſome ſtay in Italy till the year 1549, about which time he came to the court of king Ferdinand, who at firſt gave him ſome eccleſiaſtical benifices, and ſoon after began to employ him in public negotiations. In 1553, our ſtateſman was ſent on a ſpecial commiſſion to Ali Baſſa Beglerbeg of Buda, and in the ſame year he was made biſhop of the Five-Churches, and privy counſellor; he was afterwards ſent ambaſſador to the Porte, together with Francis Zay. It appears that he wrote a copious journal during this embaſſy, whereof only a fragment now remains, which is, however, highly deſerving of publication. * Antonio was obliged to follow Soliman, in his march to attack the frontiers of Perſia; and moved from one country to

* The moſt intereſting part of the memoirs of this long and dangerous expedition was given to the jeſuit *Riceputi*, who collected valuable records over all Dalmatia, under pretence to make uſe of them in a work then undertaken *dell' Illirico ſacro* But theſe memoirs, together with almoſt all the others collected by him, were unfortunately loſt.

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to another, with the Turkiſh army, for the ſpace of five years. In the courſe of that long time, he collected, and wrote many memorials concerning the government, and military art of the Turks, and the chorography of the countries ſubject to the Porte. *Augerius Buſbekius*, of whom we have a treatiſe on the Ottoman government among the Elziverian republicks, made ſeveral journies, in the mean time, to and from Vienna, and Turkey, and at laſt concluded a truce. The ſame Buſbek mentions, that Veranzio, and Zay, left Turkey towards the end of Auguſt, in 1557. Before the end of this year, Antonio was tranſlated from the ſee of the five churches to that of Agria; and in the following year there is a letter from Palolo Manuzio to our biſhop; and in 1560, he received one likewiſe from the famous, and unfortunate *Aonius Palearius*. I find nothing remarkable among Veranzio's papers now under my eye, till 1567, in which year he went a ſecond time ambaſſador to the Porte, from the emperor Maximilian II. and, in a few months time, a treaty of peace with Selim II. was concluded by this experienced miniſter, on very advantagious terms to all the chriſtian nations. This embaſſy is celebrated in an elegiac poem by *Giovanni Seccervizio*. Many manuſcripts were, doubtleſs, collected by this learned prelate, during his two expeditions to the Ottoman courts, which now, through the length of time, are entirely loſt. But there are ſtill extant, as a ſufficient teſtimony of his genius, the tranſlation, made under his direction, of the Turkiſh annals found by him in Ancyra. From this manuſcript, which is preſerved at Sibenico among his other papers, *Leunclavius* * took the greateſt part of his work, known by the learned under the name of *Codex Verantianus*.

Having

* Leunclav. Hiſt. Turc. Lib. 1. p. 31.
Schmitth. Op. cit. in ver.

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Having ended this laſt embaſſy ſo much to his honour, he returned to court, and was ſoon after rewarded for his labours; for in 1569 he was appointed archbiſhop of Strigonio, which is the firſt dignity in Hungary, after the king; and in 1572 he was likewiſe made viceroy. In this year Rudolph archduke of Auſtria was, by him, crowned king of Hungary; and his oration, on that occaſion, in the name of the ſtates of Hungary, was printed at Venice by Rampazetto. *Johannes Seccervitius* publiſhed in Vienna a panegyrick in Latin verſe, entitled *Verantius*, to which various other Latin pieces, by German authors, are annexed; and *Giovan Murio Verdizotti* printed in Venice a poem addreſſed to the archbiſhop Veranzio, upon the naval victory obtained by the Venetians over the Turks the year before.* In the beginning of 1573, *Petrus Illycinus* alſo dedicated a theological work to him; and, no doubt, many other books were publiſhed under his auſpices, as the good prelate was a munificent protector of all kinds of literature. But he now approached near the end of his laborious life. He fell ſick at Eperces, where he went to aſſiſt at the comitial aſſembly of the kingdom. In the beginning of his illneſs, he conſulted the phyſicians, but finding it increaſe, he diſmiſſed them, and waited for death with a chriſtian and philoſophic tranquillity. Men of letters loſt in him a generous protector, the poor a charitable father, and Hungary, and all Chriſtendom a conſummate ſtateſman. He died the 15th of June, 1573, a few days after he had received a very affectionate letter from Pope Gregory XIII. anouncing his election to the dignity of a Cardinal, obtained by true merit alone. His funeral oration was pronounced by *Michel Duborozky*; and he was

* *Jo. Verdizotti* oraculum pro magna navali victoria, &c. Ad Antonium Verantium Strig. Archep. Ven. apud Guerræos, 1572.

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was buried in the church of St. Nicholas of Tirna, where a ſuitable monumental inſcription was erected to his memory. Beſides the above mentioned *Belius*, *Leunclavius*, *Schmittius*, *Buſbekius*, *Mauutius*, and *Seccervitius*, many other authors have wrote in praiſe of this illuſtrious prelate; particularly *Bonfinius*, in his *Hungarian Decades*, *Iſtuamphius*, in his continuation of the ſame book, *Jongelinus*, in his *Catalogue of the Palatines*, and the author of the work entitled *Caſtrum Strigonienſe aureum*, who celebrates him by a conciſe and expreſſive panegyrick.

Antonio was tall, and well proportioned, but of a delicate complexion; his countenance was open, and noble; he had blue eyes, a long noſe, and a white beard, that reached down to his girdle. In his youth he probably felt the force of love, as it cannot well be imagined, that the many amorous verſes which he left in manuſcript were altogether fictitious. United to the beauty and dignity of his perſon, he poſſeſſed an eminent degree of eloquence, whereby he became acceptable to Princes of various countries, even in his younger days, and the ſame accompliſhment could not fail to recommend him alſo to the fair ſex. The mildneſs of his manners was truly the external image of the ſweetneſs of his diſpoſition; and the heroick patience which he exerciſed, during his ſtay with his uncle Statileo, was certainly derived from this quality of mind, and not from diſſimulation or artifice. From hence it may alſo reaſonably be concluded, that he muſt have received ſome very grievous offence from Queen Iſabella, otherwiſe he would have perſiſted in his attachment to her. His dignity and riches ſerved only to increaſe his magnanimity and beneficence, but never produced pride. One ſignal proof of his greatneſs of mind was, his ſpontaneous donative to the Emperor Ferdinand, of thirty thouſand florins, which he had

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had diſburſed for paying the troops, when the treaſury was exhauſted. And ſo great was his generoſity, that, notwithſtanding his immenſe revenues, when he died, there was a neceſſity of ſelling the epiſcopal plate, and other moveables of value, to pay his debts. He had an extraordinary degree of penetration in political affairs; and it was always contrary to his opinion to declare war againſt the Turk, unleſs a previous well eſtabliſhed and powerful league between the Chriſtian Princes had been formed. Although he was continually employed in great affairs, he always retained his genial love for learning, and, in the midſt of buſineſs, found ſome leiſure hours for ſtudy. His manuſcript works ſtill extant are,

1. *Vita Petri Beriſlavi.*
2. *Iter Buda Hadrianopolim.*
3. *De ſitu Moldaviæ et Tranſalpinæ. Fragmentum.*
4. *De rebus geſtis Johannis Regis Hungariæ. Libri duo.*
5. *De obitu Johannis Regis Hungariæ, Epiſtolæ ad Joannem Statilium Epiſcopum Tranſylvanum datæ dum idem Statilius in Gallia oratorem ageret anno* 1540.
6. *Animadverſiones in Pauli Jovii Hiſtoriam, ad ipſum Jovium.*
7. *De obſidione, et interceptione Budæ, ad Petrum Petrowith.*
8. *Vita F. Georgii Utiſſenii, quæ pene tota periit.*
9. *Collectio antiquorum Epigrammatum.*
10. *Multa ad Hiſtoriam Hungaricam ſui temporis.*
11. *Otia, ſeu Carmina.*

Michele Veranzio, the archbiſhop's brother, did not make ſo conſpicuous a figure in the world. Not having patience enough to bear the abuſive temper of his uncle Statileo, he lived ſometime in Hungary, by no means at his eaſe, and at laſt returned to

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to Sibenico. But he wrote with greater elegance than Antonio, both in proſe and verſe. Tomeo Manavich quotes a work of Michel Veranzio concerning the Hungarian hiſtory of his own times; of which, however, only a fragment relative to the year 1536, now remains. I believe nothing of his is printed, beſides one elegy, among the Latin verſes of Girolamo Arconati. But he left in manuſcript ſeveral elegant poetical pieces, and an oration to the Tranſilvanians, whereby he endeavoured to perſuade them to put themſelves under the protection of the Turk, rather than become ſubjects to king Ferdinand.

Fauſto and Giovanni, his ſons, were recommended to the care of their uncle Antonio, for their education. Some ſchool epigrams of the latter ſtill remain; he fell, when young, in battle. Fauſto lived to a great age, and might have been rich and happy, had not his violent temper hindered his advancement, and kept him in a perpetual diſquiet. He ſuffered much trouble by having imprudently engaged the court of Hungary in a diſpute with that of Rome, concerning beneficiary matters. He died biſhop of Canadio *in partibus*. We have, publiſhed by him at Venice in 1535, a ſmall pentaglot dictionary, beſides a volume in *fol.* entitled *Le Mœubine*, publiſhed ſubſequently, and a very ſhort logical treatiſe, under the name of *Giuſto Verace*. On account of this laſt treatiſe, our author entered into correſpondence with two very famous men, F. Tommaſo Campanella, and the Archbiſhop *de Dominis*. There is, of the firſt, among the *Chartæ Verantianæ*, an autographal cenſure of the ſaid logical treatiſe, and another of *de Dominis*, principally on the ſame ſubject. Fauſto wrote a great deal, and, among other things, a hiſtory of Dalmatia, which he ordered to be buried with him. His heirs reſpected this whimſical humour; and

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who knows how many valuable papers of the Archbiſhop Antonio periſhed in the ſame deplorable manner with thoſe of Fauſto? He died in 1597, and was buried in the iſland of Parvich.* Tomeo Marnavich made his funeral oration, and it was printed at Venice the ſame year. *Carlo Veranzio*, Fauſto's nephew, left no works either printed or in manuſcript; but he was a patron of learned men, a great collector of books, and an intelligent antiquary.

Beſides this celebrated family of the Veranzii, Sibenico may alſo boaſt of ſeveral other men of no inconſiderable merit, and whom I ſhall now briefly mention. Giovanni Tomeo Marnavich was born in 1579, of low parentage, though afterwards he pretended to nobility, and affected even a royal origin; which fooliſh vanity coſt him many mortifications. He was educated by the Jeſuits at Rome, and in 1603 had compiled a large manuſcript volume *De Illyrico, Cæſaribuſque Illyricis*, which is ſtill extant, though ſomewhat mutilated. In 1617 he was in the ſervice of the biſhop of Canadio, on whoſe death he publiſhed the oration above mentioned. This man having acceſs to the Veranzian papers, probably appropriated them to his own uſe. One clear proof of this is his plagiariſm of the life of Pietro Beriſlavo, which he publiſhed in 1620, adding nothing of his own, but a few periods to make himſelf appear a kinſman of Beriſlavo, and ſuppreſſing the few lines that diſcovered the true biographer Antonio Veranzio. Of the many things publiſhed by Marnavich, the beſt is a diſſertation *Pro ſacris Eccleſiarum ornamentis*, *et*

* Beſides the books already mentioned, Fauſto Veranzio publiſhed at Rome *Xivot n'koliko izabraniih diwiicz.* 1606, in 8vo. And left a manuſcript volume, entitled *Regula Cancellariæ Regni Hungariæ.*

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et donariis, contra eorum detractores, Romæ 1635, 8vo. He was then biſhop of Boſna. A few years before, he publiſhed a legend of Illyrian ſaints of royal lineage, with this title, *Regiæ ſanctitatis Illyricanæ fœcunditas,* in 4to. 1630. And, among his other ſaints, he places the Emperor Conſtantine, whoſe title to ſanctity every body is ſufficiently acquainted with. The other works of Tomeo are not worth mentioning.

Jacopo Armoluſich, a creature of Carlo Veranzio, left many manuſcript verſes, and publiſhed a little book at Padua, in 1634, entitled *Slava xenſka ſprotioni odgover Giacova Armoluſichia ſcibencanina cuitu ſeſtomus,* in 4to.

Guarino Tihich, or Tranquillo, lived in the beginning of the xvith century, and left ſome poetical manuſcripts on ſacred ſubjects.

Pietro Difnico, cotemporary with the two Veranzii, wrote ſome poems in the Illyrck language. There have been other learned men of the ſame family, but I could not find any memoirs about them. Of this Pietro I ſhall have occaſion to ſpeak again, and alſo of Giovanni Nardino, who wrote, in elegiac latin verſes, *the Praiſes of Sibenico,* a ſubject that was likewiſe treated by Giorgio Siſgoreo, whoſe work is quoted by Tomeo, but I could not find it.

Pietro Macroneo of Sibenico, Canon of Scardona, though mentioned by me after thoſe others, lived in much earlier times. Several of Macroneo's compoſitions were found among the MSS. in the poſſeſſion of Lawrence Firenczſi at Vienna, in 1634, and he

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he flouriſhed fifty years before that time. One only of his works, and a very whimſical one, is printed, intitled *Controverſia Lyaei, atque Tethidis*, Vien. 1634. It is a medley of ſcripture paſſages, parodied, to carry on this controverſy, which, nevertheleſs, is treated before the tribunal of God. Perhaps Macroneo compoſed it in earneſt; but, in our times, ſuch a mixture of ſacred and profane would carry rather too burleſque an appearance.

Martino Rota, a painter and engraver, was alſo born at Sibenico; and there ſtill remain ſeveral of his prints, among which are various chorographical maps of Dalmatia, not exact, yet of ſome uſe. Two of the three prints of Antonio Veranzio, which are preſerved in the family of the Counts Veranzii, were engraved by this artiſt.

Andrea, known by the name of *Schiavone*, was alſo born at Sibenico, of very obſcure origin, but an excellent painter, whoſe works are held in high eſteem by the lovers of that noble art, notwithſtanding the diſadvantageous judgment that Vaſari is pleaſed to form of them.

Of the Port of SIBENICO, *and the Lake of* SCARDONA, *and of ſome ancient Cuſtoms.*

The harbour of Sibenico is large, and one of the moſt beautiful that can be ſeen, by the variety of hills, and little promontories that ſurround it, and form a kind of theatre. The city ſtands on the water-ſide, extending along the lower part of a hill, and flanked by the rugged hills called *Tartari*, which are covered by the gravel of ancient rivers, hardened into *breccia*.

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The river Kerka, after entering into the lake of Scardona, forms a new channel for itſelf among the rocks, and running three miles further with a gentle courſe, forms a ſecond lake below Sibenico, ſix miles in length, and then falls into the ſea, through the narrow ſtrait of St. Antonio. The Romans had a ſettlement between the mouths of the two rivers Goducchia and Jujova, both which fall into the Lake of Scardona; however, the veſtiges are now ſcarcely perceptible, and yet they merit ſome attention, becauſe they afford a manifeſt proof of the riſe of the waters. The moſaic pavements, and the diviſions of the ruined chambers, are, at leaſt, two feet under the ordinary level of the lake, which ebbs and flows according to the tide. There is alſo a long wharf under water, which joins the point of the peninſula formed by the two rivers to the iſolated rock *Suſtipanaz*. On this rock there is a ruined church, which, in other times, perhaps, was a temple of the Gentiles. In a map of the territory of Sibenico, done by the above mentioned Martino Rota, 1571, are to be ſeen ſeveral habitations, poſterior to thoſe of the Romans, and ſituated on the point, which extends itſelf within the the lake, between the two mouths, and is called *Razlina*; which ſpot is now quite deſert.

Among the poetical compoſitions of Diſnico there is an elegy on Sibenico, wherein are various articles relating particularly to the natural hiſtory of the waters of that neighbourhood. The following is a paſſage of that old poetical naturaliſt, and, ſuch as it is, I ſhould think it wrong to ſuppreſs it.* "The "river

* The original Illyrick.

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" river Kerka, ſays he, whoſe perennial current bathes the foot " of the city, has an iſland, in which hail never falls. This " river iſſues rumbling on every ſide, from dropping caverns, " where marble is produced; and crouds of people go there, " to ſee the prodigy or its waters changing wood into ſtone. " To the, O! Sibenico, this river brings eels, the fleſh of which " produces no malignant fever, and before it falls from its great " cataract, the exquiſite trout is found, that feeds on gold. Fierce " dogs inhabit along the banks, which growl at the Turk and " his ſubject Morlacks only, and are ready to tear them to " pieces. The marſhy lake ſupplies from ſeven to ſeven years, " vaſt numbers of eels for our uſe. The crabs likewiſe with a " hundred feet, called *Schille*, of a palms length, ſwim before " us. The crowned *Dentice* are found of more exquiſite taſte " near this city than in any other place. And it is but juſt " that theſe do honour to the ſituation; for here the moſt noble " fiſhes of the ſea meet, in ſhoals, to pay their court to the " king, wandering about in their paſture; and ſometimes the " fiſh that inhabits the ſand, comes tamely upon the dry land. " But a more wonderful creature was once ſeen here, for a " marine unſociable man was caught. The ſea nouriſhes for " us near its whirlpools, the *Kotoragne* * remarkable for their " large ſize; and its rocks underwater are ſo rich, that branches " of coral grow on them. Far from the ſea within land, we " have ſalt waters where ſalt is cryſtaliſed. The fame of the " noble ſweet juice, obtained by inciſion on the iſland of Srim- " cane, *(a)* is ſpread over the world; and the continent poſ-

ſeſſes

* I found no body at Sibenico who knew what kind of fiſh this *Kotoragne* is. The general dialect of this poem is not underſtood there, and reſembles none of thoſe now uſed in Venetian Dalmatia.

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" ſeſſes ſtill more glorious qualities; for there the manna falls
" in honied dew. There the women boldly dare to cut the li-
" gaments of their fætus, which lives notwithſtanding and walks
" *(b)*. And here thoſe who were wounded in the head, and
" whoſe brain was cut aſunder, have lived a year and a day
" after."

Among the particularities of Sibenico mentioned in this curious piece, *the marine unſociable man*, that was taken, ſeems to me worthy of obſervation. Of the two ſpecies of manna taken notice of by the writer, the firſt is certainly that which proceeds from the *fraxinus*, by means of inciſion, as is practiſed in the proper ſeaſon in Calabria, Apulia, the *Maremme* and Provence: but this is fallen into diſuſe in Dalmatia. The other is probably that farinacious ſubſtance united with the dew, which is annually gathered in the neighbourhood of Cracow, and makes a ſmall article of trade between that city and Warſaw. We have ſomething of the ſame nature, in the months of Auguſt and September, at Cartila near Eſte in the Paduan territory.

Pietro Difnico took the greateſt part of thoſe hints of natural hiſtory from the manuſcript elegiac verſes of Giovanni Nardino, Canon of Zagabria, ſome of which are alſo inſerted in a manuſcript work of Tomeo Marnavich, but not expreſſed with a ſcrupulous nicety, in the illyric paraphraſe. Nardino takes notice of the produce of manna, and of the coral fiſhing thus:

Manna ſolo, benice, tuo fælicibus aſtris
Ambroſias tribuit, nectareaſque dapes.

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The coral trade muſt have been well eſtabliſhed in that age at Sibenico, as theſe verſes prove:

Hæc quoque floreſcit ſpecioſis unda corallis,
Qui dites Indos, antipodoſque petunt.

This author, among the many other advantages which he attributes to his native country, mentions two ſingular cuſtoms, one of which is ſtill kept up. The following are the four verſes in which they are deſcribed:

Sic trino dicata Deo dum feſta refulgent
Civis in hac ſceptrum nobilis urbe tenet.
Hic prius oſtenſo celebrat nova nupta Priapo
Connubium, et ſocias porrigit inde manus.

The King of Sibenico is elected before the Chriſtmas holidays, and continues fifteen days. I was not there at that ſeaſon, ſo only mention this from hearſay. He has the marks of royal authority; ſuch as, the keys of the city gates are brought to him every night, while his mock reign laſts; he has a diſtinct ſeat in the cathedral, and is judge of the actions of thoſe who compoſe his ephimeral court. It is no longer a gentleman who makes this burleſque figure of king, but an ordinary peaſant. Yet he has a good houſe aſſigned for his lodging; walks through the city crowed with corn ſpikes, cloathed in ſcarlet, according to the faſhion of the country, and attended by many officers. The The governor entertains him at dinner, as well as the biſhop; and whoever meets him in the ſtreet bows to him. The ſuburb towards the land, as well as that towards the ſea, has each their king, but they cannot enter the city without permiſſion from the city monarch.

I did

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I did not think it requiſite to inform myſelf much concerning thoſe preliminaries of marriage indicated by the canon of Zagabria, who, no doubt knew perfectly well, that this prudent uſage was then in force, as he is reputed a diligent obſerver of every thing relative to his country. If I could have found the MS. work of Georgio Siſgoreo, which treated *of the moſt noble prerogatives of Sibenico*, written about the year 1505, no doubt, I ſhould have been able to extract much intelligence, not only in regard to ancient cuſtoms now fallen into diſuſe, but alſo to the phyſical hiſtory of the country.

Of the Fiſhing of the Lake, and the Foſſil and Submarine Productions of the PORT *of* SIBENICO.

The lake of Scardona is altogether ſurrounded by hills of gradual aſcent, and ſuſceptible of the beſt cultivation; but they lie for the moſt part abandoned. Nor is the fiſhing practiced in a better manner than agriculture in theſe parts, although they are frequented by tunny, and other ſmaller emigrating fiſh. The fiſhermen attend to little elſe beſides the daily proviſion of ſuitable fiſh, for the tables of the inhabitants of Sibenico and Scardona. *Lizze, Palamide, Dentici, crowned Orate, Triglie*, eels, and many other ſpecies of fiſh of equal goodneſs are caught in theſe waters, but by a very ill contrived and ſlovenly method. The *Schille*, a palm long, mentioned by Diſnico, is common in the lake of Scardona, and the bay of Sibenico, are truly a delicious morſel. They have no regular fiſhing for eels, though the marſhy river Goducchia, certainly produces a great plenty; and, no doubt, the ſame plenty might be found in the muddy parts of the lake, near the city of Scardona.

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All the ſides of theſe internal bays are of marble, and all nearly of the ſame kind of ſubſtance. The common Dalmatian marble prevails, ſometimes more, and ſometimes leſs full of fiſtulous and broken pieces of teſtaceous bodies; often divided into horizontal inclined ſtrata, and ſometimes alſo ſubdivided vertically. I had a drawing taken of one of the moſt remarkable places on that ſhore, called *Suppliaſtina*, which means *perforated ſtone*, (P. VI.) and takes its denomination from the hole *B*, formed in the top of the naked rock, and paſſing quite through it. There is not, perhaps, on all the coaſts of Dalmatia, nor within land, neither do I believe, among all the mountains of Italy, which I have viſited, a ſingle ſpot better calculated to convince a perſon prepoſſeſſed by the falſe opinion of the exiſtence of calcareo-marine vertical ſtrata, improperly ſo called, in their natural poſition. The ſmall promontory ſtretches into the canal A, which extends itſelf towards the lake of Scardona. On the oppoſite ſide are ſeen the fallacious appearances of the veins C, almoſt perpendicular; but on examination, the line EEEE is diſcovered, conſtituting the primitive diviſion of the ſtrata, and confirmed by the difference of the ſubſtances lodged in the marble. Other ſimilar lines are diſcoverable higher up; and that which manifeſtly ſhows the different origin of theſe and the vertical lines, is, that the firſt are ſcarcely viſible, and rarely diſcontinue the ſolidity of the maſs; and the ſecond are evident fiſſures, ſometimes narrower, and ſometimes broader. The channel of St. Antonio, that leads from the port of Sibenico to the ſea, likewiſe exhibits a ſingular appearance of ſtrata worthy of obſervation. For the diviſions of the marble ſide, are at firſt much inclined towards the internal promontory of the port; then they become, by little and little, more erect, till they are quite vertical; and at laſt, all

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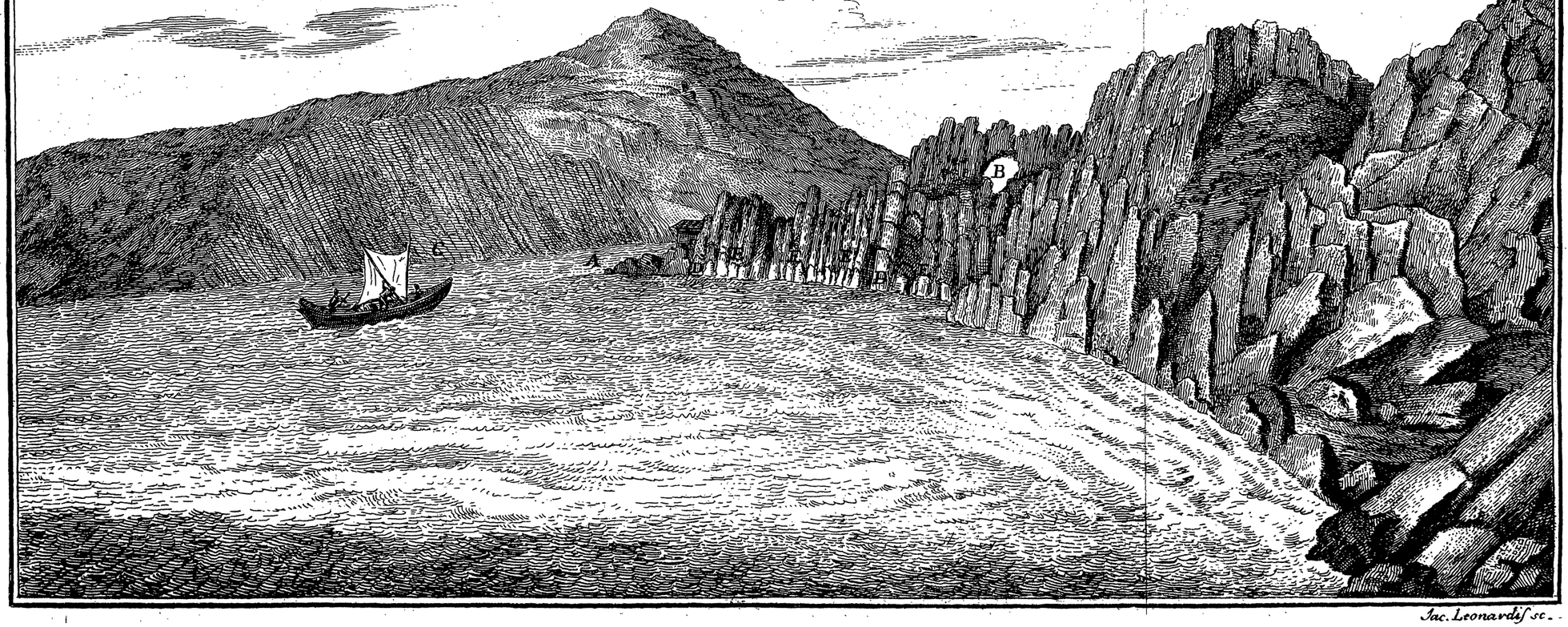
A View of SUPPLIA-STINA in the Harbour of SEBENICO



Jac. Leonardis sc.

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at once changing their nature, they become ſinuous in the moſt extravagant directions. It is not eaſy to give a ſatisfactory explanation of this phenomenon, if we will not believe it to proceed from the various motion of the waters of that ancient ſea, which ſucceſſively daſhing together the component parts of theſe calcareous ſtrata, carried them, ſometimes in one, and ſometimes in another direction, according to the currents and ſtorms prevailing at different periods.

The marble ſhores of the port of Sibenico, in many places, ſhew evident marks of diſlocation, which poſſibly may have been the conſequences of ſome violent earthquake. The grotto of St. Antonio is remarkable enough; for its vault is formed of the angle of two pieces of the hill, which, in falling, were joined together. The long hanging rock is alſo obſervable; it ſtands on the little peninſula *Delle-fornaci*, near the city, and extends near a mile in length, in a direction oppoſite to the ſea, on a baſe of a tenacious barren earth, of a bluiſh colour, and marine, but without teſtaceous bodies. The *Frumentarii* which are confined in the hard ſtone, are the only diſtinguiſhable ſpecies of foſſil bodies to be ſeen on that ſpot.

I made a trial of fiſhing for marine productions in the greateſt depth of the canal, or ſtrait of St. Antonio, making uſe of a boat, and coral fiſhing tackle; by which means, we drew from the bottom, various pieces of that ſtoney cruſt, which in many places forms itſelf at the bottom of teſtaceous fragments, ſand, and mud concreted together. Every one of theſe pieces extracted, appeared to me an iſland peopled with ſubmarine beings. I examined haſtily the red *oloturii*; alſo the red and arborous ſpunges, and other congenerous Zoophytes; ſome of

them deſcribed, and ſome ſtill but little known to naturaliſts. But the want of time, and proper means, and the particular ſeaſon hindered me from examining with due attention theſe various objects. I diſcovered alſo, on the ſame fragments, many other living animalcules of a viſcous nature; paraſitical inſects, naked worms, *eſcharæ* and *fungites*, inhabited by their polypes; of which, I hope to write more particularly on a future occaſion. I ſhall, however, attempt to deſcribe to you, as well as I can, a new ſpecies of *Terabratula*, which hitherto I have not found in the books of the marine conchiliogy. Baron de Hupſch alone has given a figure, that reſembles it much, in plate IV, No. 16, 17.* by the name *Conchites anomius Eifliaco-Juliacenſis perulam referens.* He believed, and with reaſon, that the original of the petrification found by him in Eifel, in the Duchy of Juliers, was not known.

Although the *Terebratula* does not correſpond identically with thoſe figured by Hupſch, I am inclined to believe it the original of his, and the rather, becauſe I have obſerved, that there is ſome difference of configuration between one individual and another of theſe in my poſſeſſion. The moſt regular, is that which is repreſented fig. 1. p. VII. It has gibboſities both in the under and upper ſhell, and is ſubſtriated lengthwiſe as well as acroſs. Juſt in the middle of the *gingly-mus*, by which the two unequal valves are kept united, there is a hole through which the foot of the animal paſſes, and ſerves to keep it faſt, as it were at anchor, on ſuch bodies as ſuit it beſt; in the ſame manner as is obſerved in the lower valve of all

* *Nouvelles decouvertes de quelques teſtaces petrifies rares, & inconnus, &c.* par J. G. C. A. Baron de Hupſch, a Cologne, 1771, in 8vo.

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all the *oſtrea* and *pectens* * before they have acquired ſufficient ſtrength to live without ſupport; ſo it is alſo with the *conchæ anatiferæ*, the *Patellæ*, and ſeveral ſpecies of *Turbines*. There is no doubt, that the progreſſive motion of the *Terebratula* of Sibenico (if it has any) depends entirely on the uſe of this foot. The fig. 2, is much more like the *Peridiolites* of Hupſch. The internal formation of this ſhell of mine is alſo ſingular, and deſerves to be deſcribed to the naturaliſts, who probably have not had occaſion to examine it. In its natural ſtate, I did not think it ſo worthy of obſervation, as it appears when dead and deſiccated. See it in fig. 3, but do not imagine it is endowed with ſo much force, as to be able of itſelf to lie thus expanded; no, it is furniſhed with ſufficient ſupport by means of an elaborate teſtaceous forked appendix, which grows out of the poſterior extremity of the cover, as repreſented in fig. 4. It would be worth while to examine, if many of the foſſil productions of lower Germany do not agree with originals living in the deepeſt abyſſes of our ſea. Who knows if thereby the number of petrifactions derived from teſtaceous ſhells, and the labours of Polypes not known, might not, by degrees be leſſened? The Siberico *Terebratula* was taken from a depth of a hundred and eighty feet or more; and in the caverns, from whence the coral is fiſhed, the *Terebratulæ* are found much deeper. I ſaw one of them ſhut up within the coral ſubſtance which had grown over it.

Of

* This ſpecies of teſtaceous ſhell is found, when young, adhering to ſtronger bodies of the ſame kind, by means of a foot which paſſes through a little hole, left by provident nature at their production from the egg. Among the foſſil *pectens* found in the hills of *Borgo San Donnino*, I have frequently met with ſuch as had little ones on their back; and nothing is more common in our ſea.

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Of the Village and Valley of SLOSELLA.

The firſt place of the territory of Sibenico, that one meets with on the Side of Zara, is the village of Sloſella, ſituated in a large valley which bears that name, and defended by a thick wall on the land ſide. The inhabitants ſay that the denomination of Sloſella, which is equivalent to *Malvillaggio*, i. e. curſt village, was given by the Turks in the times of their incurſions, becauſe they found the inhabitants bold, and always ready to oppoſe them. But whatever may have been the original of this name, it certainly ſuits the inhabitants extremely well. I ſtaid there many days, availing myſelf of the friendſhip of the Abbè Count Girolamo Draganich Veranzio, to whoſe illuſtrious family the village belongs; and hence I had a better opportunity of obſerving with convenience here, than in other places of Dalmatia.

The ground of Sloſella affords nothing worthy of particular obſervation; it is generally of marble, which is frequently cavernous, and full of ſtalactites. The external aſpect of the country is horrid, on account of the nakedneſs of the mountains, which are intirely ſpoiled by the inconſiderate brutality of the inhabitants. Nor has the plain that ſtretches along the ſea, any degree of amenity; for, through their obſtinate ſtupidity in agriculture, the vines, olives, and cornfields are all equally ill managed. The lands cultivated by Count Veranzio only diſtinguiſh themſelves at a diſtance, by the chearful green with which they are covered, as do likewiſe the few woods that remain, and of which he has the ſole diſpoſal. He is endeavouring to encourage the growth of his young *fraxini*, by rooting out the brambles and ſhrubs ſcattered among them, that they may the ſooner be

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be ready to yield manna by inciſion. It is very probable that theſe attentions will prove ſucceſsful, as the ſituation is perfectly ſuited to every product of warm climates. I made ſome inciſions on the *Lentiſcus*, and though the trunk of the tree, on which the operation was tried, was not large, and it was ſurrounded with thorns, and paraſitical plants, yet it yielded ſome maſtich, little indeed, but enough to ſhew its excellent quality. There is great plenty of *Lentiſcus* about Sloſella; but the inhabitants cut and deſtroy all ſorts of trees, and ſhrubs, without diſtinction, for firewood and other uſes, ſo they never have time to grow to an age requiſite to give any conſiderable product.

The many ſtreams, which iſſue from the bottoms of the mountains, and mix with the ſalt waters of the valley of Sloſella, invite thither a great number and variety of fiſhes. I did not inform myſelf minutely of the adventitious ſpecies found there, and hence, perhaps, you will blame my negligence and inattention. But the chief object of my attention was that ſpecies alone, whoſe paſſage is copious and conſtant, and therefore deſerves ſome conſideration from government, as an object of national œconomy and commerce. I wiſh it was in my power to declare war againſt the northern fiſhes which invade our Italy, as the men uſed to do in the barbarous ages; and ſhould think myſelf happy could I arm the fiſhermen of the Adriatick againſt theſe foreign intruders. Every ſeaſon brings ſhoals of fiſhes to the valley of Sloſella. In the cold months, and particularly in the ſharpeſt days of winter, vaſt numbers of mullets crowd thither, allured by the warmth of the freſh waters, which, ſpringing from the bowels of the mountains, mix themſelves with the ſea before they have ſuffered the impreſſion of the rigid air. The inhabitants of the neigbouring villages, at theſe ſeaſons, meet, bringing with

with them a ſort of net, called by them *fruſati*, or *frights*, of a breadth and depth adapted to theſe ſhallow waters. The noiſe and confuſion they make by beating the water with their oars, ſticks, and ſtones, frighten the mullets; and in flying towards the ſea, they fall into the nets; or by ſeeking the ſurface the moment they feel any obſtacle, the peaſant fiſhermen ſtand ready prepared with various inſtruments, and kill great numbers of them. The ſpring brings into theſe waters the *Xutizze*, or dove fiſh, of the ray genus, but of a more firm and fibrous ſubſtance; and in ſummer the ſardines and mackrel come in ſhoals. Yet notwithſtanding the great plenty and variety of emigrating as well as other fiſh, the lazy Sloſellian neglects every means of profiting by them: he is contented if he can find proviſion for the day, and often devours, without bread, or any ſort of ſauce, all the fiſh he has catched. The cuttle fiſh is the univerſal food of theſe idle inhabitants, during the ſpring ſeaſon; and they catch them, by laying under water the branches of trees with their leaves, to which the fiſhes adhere, in order to leave their eggs. If any greater or more complicated labour was needful, I believe they would rather chuſe to want food than to perform it. For to ſuch a degree do they hate their own advantage, as well as that of others, that to thwart the introduction of drag nets, though made by their own landlord, they ſcattered large ſtones over the ſhallow parts of the valley; notwithſtanding that, by the exerciſe of theſe nets, many men of their own village were to have been daily employed. In general all the peaſants along the ſea coaſt, are equally lazy and malicious; perhaps becauſe they are too much protected by the laws, and put on an equality with their maſters. Yet it appears very plain to me, that ſubordination is abſolutely neceſſary to render theſe maritime people happy; and in ſome caſes, even forcible and violent

olent methods would prove very uſeful to rouſe them from their habitual indolence. But the inland people require a very different treatment, as their diſpoſitions and tempers are quite contrary, and by mildneſs and lenity, tempered with a proper degree of authority, they may eaſily be brought to do any thing for their own and for the publick good.

Obſervations on the ANDROSACE.

Among the many ſubaqueous productions of the valley of Sloſella, the *Androſace* merits particular obſervation; it was reckoned among the plants by *Vitaliano Donati*, and among the Zoophytes by *Linnæus*, who named it *Tabularia acetabulum*. I will not, at preſent, declare to which of theſe opinions I am inclined, becauſe I am not yet ſufficiently convinced about the point in queſtion, and believe it neceſſary to examine the *Androſace* at different ſeaſons, before a deciſion can be given. But I will confeſs to you, that, having carefully examined, with the microſcope, both freſh and dried ſpecimens, I could not diſcover evident characters of a Zoophyte. On comparing the obſervations of Donati with theſe ſpecimens, taken from various parts of the valley of Sloſella, and particularly from the rock of *San Steffano*, I added to the margin of his book the following annotations: 1ſt The *Androſace*, which, according to this author, *very rarely in our ſeas riſes to above an inch and a half*, is found to exceed three inches all around the above mentioned rock, where it grows almoſt to the ſurface of the water. 2. The filaments that riſe from the concave part of the fungiform top or crown of the *Androſace*, far from being *ſo minute and delicate that they cannot be diſcerned even by the microſcope, unleſs when the Androſace*

face is in the water, where they appear ſoft, and of a ſilver colour, extending as far as the circumference of the crown;* are, on the contrary, ſo viſible, that, without the help of a microſcope, I could diſcern them, and perceive that their colour was not inclining to ſilver, but, rather, to that of cinnamon. Moreover their length exceeds ſo conſiderably the circumference of the crown, that, out of the water, and gathered in a bundle by themſelves, I could make a drawing of them, as you will ſee in Fig. V. *a.* (P. VII.) and which repreſents an *Androſace* irregular in the circumference of the crown itſelf. 3. I found ſome *Androſaci* in which the filaments could not be diſcovered, and from the centre of the crown a kind of *piſtillum* aroſe. Expecting to find another opportunity of obſerving them more accurately, I neglected the firſt ſpecimens, which I had collected in the month of Auguſt, and I had it not in my power to meet with them again, being obliged to proceed on my journey far from Sloſella. 4. The *Androſace*, ſometimes, has two crowns, one above the other, as in Fig. vi. and ſometimes (but much more rarely) I have found it dichotomous, as you will ſee in Fig. vii. The only ſpecimen of a dichomotous *Androſace* that I was able to preſerve, during my long travels, was ſpoiled here at Venice, though after I had had the pleaſure of ſhewing it to ſeveral lovers of natural curioſities. Some of thoſe with two crowns, which, though leſs rare, are not frequent, remained in entire preſervation, and I placed them in the collection of our learned botanical friend Dr. *Antonio Turra* of Vicenza. And if I return into Dalmatia, which is not improbable, I hope to be able to give a more exact anatomy, and a better drawing of the *Androſace* than that of *Donati*.

Of

* Donati and *Saggio di ſtoria naturale*, &c. p. 30 31.

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Of the little Iſland, or Rock of St. STEFFANO.

There is plenty of *Androſace* in the fiſh ponds at the foot of the rock of St. Steffano, which ſerve for the uſe of a few poor friars who inhabit it; and, beſides the *Androſace* there are various ſpecies of marine inſects, which deſerve particular attention; ſome of them ſwim about in the water, ſome adhere to the ſtones, and others ſhelter themſelves among the *ulvæ, viriſoidi, fuci,* and *conſervæ*. I collected there a ſmall ſpecies of a rough pentagon ſtella, agreeing with the *Aſteria aculeata* of Linnæus; the *Oniſcus aſſillus*, various *Buccina* and *Purpuræ*; *Mituli*, whoſe valves do not coincide; the *Oſtrica Lima*; two different *Chytons*, one faciated, another only variegated; ſmall *Nautili*, and *Serpole lombricali*, beſides many other ſpecies, that are every where common in our ſeas. There are many fragments of Roman tiles and urns ſcattered about this rock; many inſcriptions have alſo been dug up, but they were broken by thoſe barbarous friars, to pave their wretched court. The remains of an inſcription in bronze are ſtill to be ſeen thruſt into a wall; the letters, as you may imagine, have been taken away. It is probable that this rock was a burying place, according to the laudable cuſtom of the ancients, who, more reaſonable than us, interred their dead bodies at a diſtance from habitations, that the dead, at leaſt, might ceaſe to hurt the living.

Of the Iſland of MORTER.

Three miles beyond the rock of Steffano lies the iſland of Morter, which the writers of Sibenico of the xvi century believed to be the *Colentum* of Pliny, alledging, as a proof of their opinion, its diſtance from the mouth of the *Tizio*. I thought proper to viſit this iſland, where certainly there was, in ancient times,

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times, ſome ſettlement either Greek or Roman; but few or no veſtiges of any large town are now to be ſeen. Indeed, the only marks of ancient habitation are ſome old tiles, fragments of vaſes, and ſome hewn ſtones, among which I obſerved beautiful pieces of a cornice, which muſt have belonged to ſome magnificent and well built fabrick. Ancient coins and inſcriptions are frequently found; but the ſuſpicious temper of the inhabitants renders a ſearch for ſuch antiquities very difficult. I would have been glad to have had it in my power to dig up ſome inſcription that aſcertained the city of *Colentum*. The people of the iſland told me, that, not many years ago, there were ſome remains of a wall on the top of the hill; but they were carried away to build a church to the Madona of *Gradina*. Whatever name this iſland went by in former times, its ſituation is certainly beautiful and delicious as any can be. The hill riſes gradually, and overlooks an arm of the ſea, full of little iſlands and promontories, extending the proſpect from its top to a part of the hills in the territory of Zara, as far as the Bebian Alps. The ſmall woody iſlands of *Vinik-Stari*, *Teghina*, and *Mali-Vinik*, heighten the beauty of this ſituation. The whole iſland of Morter, which is thirteen miles round, is, for the moſt part, ſuſceptible of cultivation, and under better management, would, no doubt, yield rich produce to its inhabitants. But its preſent inhabitants are a worthleſs people; and it is obſerved, that, in every piratical boat of thoſe parts, there is, at leaſt, one of that iſland, who ſerves the robbers as pilot through all the paſſes, and as a guide to the moſt unfrequented creeks, and hiding places. The ſtrait, that divides the iſland of Morter from the continent, is much frequented by ſmall barks and boats, eſpecially in the ſtormy ſeaſons, when the navigation in the open ſea is too dangerous for them. In conſequence of this paſſage, there

there is, on that ſide of the iſland, a large village of well built houſes, ſeveral of which are inhabited by trading people, in eaſy circumſtances, though, in that ſituation, the adjacent rocks, the oppoſite continent, and the marble hills of the iſland itſelf, are quite bare, and afford the moſt frightful barren view. The marble of this iſland, and of the leſſer ones contiguous to it, is full of marine bodies, which, probably, belong to the genus of the *Orthoceratites*; in ſome places it is pierced by *Phalades*, which grow there to a ſize that ſurpriſed me, ſome of them exceeding four inches in length.

The proprietors of the land on the iſland of Morter, reap very little advantage from it; their tenants do not think themſelves obliged to give them more than the fifth part of the wine they make, and nothing of any other product. Hence the vine is but little cultivated by theſe malicious peaſants, and the olive is preferred, though ſubject to more accidents than the vine; or the land is left for paſture. The want of diſcipline and ſubordination among theſe peaſants, now, in a manner, confirmed by a combination of other unhappy circumſtances, render any attempt of the proprietors to recover the leaſt part of their right, extremely dangerous. Agriculture alſo ſuffers the bad effects of this vicious conſtitution, which took its riſe in the calamitous times of contagion, or of irruptions of barbarians; and it would be a deſirable event, if, in this happy age of peace and advancement of national good, a ſuitable remedy were applied to this diſorder.

Fiſhing is not much minded by the Morterines, though, in the canals near their iſland, the tunny often paſſes in large ſhoals, and many loſe themſelves, and ſtay the winter, particularly in the

the ſhallow water, near the hamlet of Ramina, where formerly there were ſalt pits. The principle occupation of the *Bettignani* who inhabit the weſtern extremity of the iſland, is to gather, macerate, ſpin and weave the *Geniſta*, which they go to fetch even from the coaſt of Iſtria, and the iſlands of the *Quarnaſo*. They make cloth of this plant, of various kinds, which ſometimes is uſed for making ſacks, and ſometimes ſhirts, and petticoats. Doubtleſs, if this art was exerciſed in a leſs ſlovenly manner, much better manufactures might be derived from the *Geniſta*. The ſea ſerves them for macerating the twigs.

Of TRIBOUHUG, VODIZZA, PARVICH, ZLARINE, and ZURI.

After paſſing the ſtrait of *Morter*, the firſt inhabited place on the Continent is *Tribouhug*, or *Tribouoni*, an iſolated village, ugly and miſerable, ſurrounded by a wall, and joined by a ſtone bridge to the ſhore. Towards the end of the laſt century *Pappizza*, a peaſant extempore verſifier, was born here; he is ſtill famous for the number of verſes which he uſed to ſing, accompanying them with the *Guzla*; but I could no find any thing of his in writing.

The village of *Vodizza*, little more than a mile diſtant from Tribouhug, has taken its name from the abundance of water found every where about it; for *Voda*, in all the Sclavonian dialects, ſignifies *water*. It cannot be ſaid that Vodizza abounds with ſprings; but there is a ſubterraneous river, not ſo large nor ſo deep as the wells of Modena, though of the ſame nature. It runs between the ſtrata of the littoral marble, and, at high tides, its water is not wholeſome. In whatever ſpot thereabouts they dig a well, the water is found at the ſame depth

depth and with ſmall expence. The appearance of the people that I ſaw at church, did not indicate riches: yet the land of Vodizza, as far as I could diſcover about the habitations, is not bad. The aſcent from the ſhore is eaſy, and juſt ſufficient to preſerve the lands from being overflowed by the waves. Several well cultivated little iſlands form a delightful proſpect from this village. One of its moſt conſiderable products, as well as of Tribouhug, are the *Maraſche* cherries, of which, by diſtillation, they make *Roſolio* at Zara and Sibenico.

Parvich, *Zlarine*, and *Zuri* are the beſt peopled, and moſt conſiderable iſlands under the juriſdiction of Sibenico. They contain a great number of fiſhermen, as well as induſtrious labourers of the land, who cultivate both the vine and the olive to great perfection. Theſe three iſlands ſend every year, in the fiſhing ſeaſon, forty large nets out of their different ports, and, by the plenty of fiſh they catch, provide a comfortable livelihood to a great number of families. But it remains to be wiſhed, that the buyers of their ſalted ſardines, mackrel, mullet, &c. brought them to market at Venice; we might then exclude a great part of that ſtinking and unwholſome fiſh, which, ſince the beginning of the preſent age, the Hollanders bring us, year after year, in greater quantities, and which ſerve to poiſon the poor tables of our peaſants. I ſtaid ſeveral days on one of theſe iſlands; and the hope of being able to do ſome ſervice to my country kept me occupied with that object much more than with the ſearch of natural curioſities, that perhaps the ſea might have furniſhed me with. But I will not detain you on this ſubject, as ſuch details are rather calculated to intereſt the economy and political views of the government, than for learned foreigners. All theſe three iſlands were inhabited by the ancient Romans;

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mans; and in each of them, are found monuments of that nation which over-ran the then whole known world. At Zlarine there was dug up, in the 16th century, the ſepulchral marble of a woman called Panſiana, with the title of queen. The learned of thoſe times, who were numerous in the neighbouring city, made many fruitleſs reſearches about the country from whence that lady came thither; and finding no veſtage in hiſtory, they conjectured, with great probability, that ſhe muſt have been ſome barbarous queen, who, after ſerving to embelliſh the victor's triumph, was baniſhed to that iſland to finiſh her days. I could not find the inſcription, nor indeed any other traces beſides thoſe which the manuſcript memorials of thoſe times furniſhed we with.

Parvich, though of ſmall circuit, is extremely fertile. Every product ſucceeds in perfection there; I mean thoſe products of which a very ſhallow ground is ſuſceptible; ſuch as wine, oil, mulberry trees, and fruit. The aſpect of this iſland is alſo very pleaſant at a diſtance, whereas that of the others adjacent diſguſts the eye, by their too high, rocky and bare hills. The name of *Parvich* ſeems to have been given it becauſe it is the firſt one meets with on going out of the harbour of Sibenico; for the Illyric word *parvi* ſignifies *firſt*.

The iſland of Zuri is mentioned by Pliny under the name of *Surium*; and it ſeems that Parvich, and Zlarine, with many other ſmaller iſlands, to the number of fifty and upwards, are collectively called by him *Celaduſſæ*, plainly inverting the Greek word δυσκελαδος, which means ill-ſounding, or noiſy. The text of Pliny, if the common reading is followed, contains a notable blunder in chorography; but this may be eaſily rectified by a

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ſlight change in the punctuation, and read thus: *Nec pauciores Trucones (Inſulæ) Liburnicæ, Celaduſſæ contra Surium. Bubus, et capris laudata Brattia* *. Zuri is, in reality, more expoſed to the ſea than the others; and oppoſite, between Zuri and the continent, are *Kauſban*, *Capri*, and *Smolan*, which name indicates the ancient cuſtom of making roſin there. *Tihat* is inhabited only by ſhepherds; *Seſtre* are ſmall iſlands remarkable for an excellent quarry of hard white ſtone, which might be uſed at much leſs expence, and would be much more durable than the Vicentine ſtones. Parvich and Zlarine are cultivated and populous, beſides many other ſmaller iſlands. The dreſs of the women of theſe *Celaduſſæ* is different from that of the females of the *Trucones*, or iſlands of the canal of Zara.

But the remains of Roman habitations ſtill to be ſeen on the iſland of Zuri, ſerve not near ſo much to diſtinguiſh it as its coral fiſhing, which is never inconſiderable in the waters around it, and, thirty years ago, was of immenſe value, by means of a very fertile bank then diſcovered. A lover of natural hiſtory, inſtructed by the example of your celebrated Count Marſigli, would make many valuable acquiſitions, and curious diſcoveries by fiſhing in the depth ſuited to the multiplication of coral, and could not but wiſh to live ſome months here in one of theſe coral boats. How many of the Teſtaceous tribe, ſtill unknown, might not there be brought to light; and how many originals of petrifactions, that are generally ſuppoſed loſt or extinct ſpecies, might not fall into our hands? I conceived this wiſh very earneſtly, but circumſtances and reflections ſuffered me not to gratify it. Inſtead of being guided by my inclina-

* Plin. Hiſt. Nat. Lib. III. cap. ult.

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tion, I thought it a more prudent meaſure to ſeek a larger field of obſervation on the Continent, which would furniſh a greater variety of matter.

The coral fiſhing in our ſea is carried on by ſubjects of the King of Naples, who are in the ſervice of a principal, who farms that privilege. Our iſlanders, though frequently employed in the coral boats, have not yet been able to learn the wonderful art of extracting the coral from narrow and deep caverns under water. Yet certainly this art deſerves particular encouragement. Corals form a rich article of commerce, even when ſold in its natural form; and it is the more to be wondered at, that the art of fiſhing it is not well underſtood by the Dalmatians, conſidering how ancient the trade of it is at Sibenico.

Of the Lakes of ZABLACHIE, *and* MORIGNE.

In ſailing along the coaſt from the port of Sibenico, the plain, with ſtony-lands of *Zablachie* are ſeen; and beyond them is the lake of the ſame name, which communicates with the ſea, by means of a narrow artificial canal. In rambling over theſe grounds, I found ſpontaneous maſtich drops hanging from the *Lentiſci*, which the ſhepherds have ſuffered to grow, to ſhelter their flocks in the ſcorching ſummer's heat. The lake, before the beginning of this age, ſerved to form very plentiful ſalt-pits; and ſeveral other lands thereabouts, ſubject to be overflowed by the ſea, were employed to the ſame purpoſe. But now it is only a fiſh pond, and of very little conſideration, as no care is taken to maintain and multiply the ſpecies. The only particularity, that merits obſervation, is, its ſand full of ſmall ſhells, of elegant ſtructure, perfectly well preſerved, and ſometimes with the live inſect. Some of theſe have hitherto not

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I

II

III

IV

a

V

VI

VII

VIII

IX

X

XI

XII

XIII

c

b

a

b

c

XIV

Jac. Leonardis sc.

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not been deſcribed. Such, for example, is that which you ſee, according to its natural bulk, and alſo magnified by the microſcope in Pl. VII. fig. 8. 9. which would reſemble an egg cut at the top, if it were not ſpirally ſtriated from the bottom to the circumference of the mouth. The inſect, that inhabits this ſhell has no *operculum* of any kind; it is altogether black as a coal, which renders it extremely difficult to diſtinguiſh the very minute parts. In the ſame manner is found the white microſcopic *Nautilus* deſcribed by Bianchi in his celebrated work * *De conchis minus notis*. The cultivated land contiguous to this lake is white, and produces abundantly.

Three ſhort miles from the lake of *Zablachie* is the ſalt lake of *Morigne*, communicating with the ſea by means of a natural canal, which ſtretches within land oppoſite to the iſland of *Crapano*. It is about three miles in circuit; the mouth a hundred and fifty feet broad; and its bottom, which is overgrown with ſea-weed, is, for the moſt part, muddy, and ſo ſhallow, that, at low water, the tops of theſe weeds appear, in many places, on a level with the water. The perennial ſtream of *Ribnich*, that runs into it, invites the fiſh thither, and the excellent feed they meet with, detains them. It would be very eaſy to make a cloſe fiſh-pond of this lake, from whence plenty of all ſorts of fiſh might be obtained, with much greater advantage than the extent of the ſpot ſeems to promiſe. There are two rocks towards the weſt ſide of *Morigne*, on which, in former times, there muſt have been buildings, for many ſquared ſtones, and the foundation of walls, are ſtill to be ſeen. Perhaps from theſe remains the vulgar tradition had its riſe, that, a city had been ſwallowed up in the ſituation now occupied by the water.

* Jani Planci Ariminenſis De conchis minus notis.

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The fiſhing is managed there, in the ſame ſlovenly manner as at Sloſella, by the inhabitants of the neighbouring villages. The ſhell fiſh of the lake of Morigne, are almoſt entirely the ſame as thoſe in the lagunes of Venice, and Comacchio; and if the ſea carries thither the ſeeds of other ſpecies that love deep water, they do not propagate, but return to a more ſuitable ſituation.—Among the microſcopic ſhells of Morigne, beſides a variety of *Cornua ammonis*, and other minute bodies, common to almoſt all ſandy and muddy bottoms of the Adriatick, there are many *Porpites*, like thoſe foſſil ones ſometimes found in your Bolognese brooks, and which have been waſhed down from the higher hills. The chaſms of Brendola hill in the Vicentine contain alſo great quantities. Their bulk originally does not exceed that of half a grain of millet. Examined by the microſcope, they appear wholly compoſed of ſmall lines, or diviſions, very irregularly interſected, and forming a great number of cells for the Polypes fabricators and inhabitants of the little city. Pl. VII. fig. 10. 11.

The lands adjacent to the lake, are of the ſame quality as thoſe around Zablachie, and both theſe make a part of what is called the *Campo d'abbaſſo*, which is by far the moſt fertile ſpot in the territory of Sibenico. The common Dalmatian marble, and a kind of lenticular ſoft ſtone, prevail in the more elevated parts of this tract of country, near the ſea. Advancing nearer the bottoms of the high mountains, I found them compoſed of concreted clay, like thoſe of the coaſt near Zara.

Of Simoskoi *and* Rogosniza.

The weather did not permit me to land at the place now called old Sibenico, where, perhaps, I ſhould have found ſome monu-

monument of the good old times; though Peutinger's table does not place any ancient ſettlement in that neighbourhood.

The laſt maritime places, that I viſited under the juriſdiction of Sibenico, were the two ſmall iſlands *Simoſkoi* and *Rogoſniza*. The higheſt parts of Simoſkoi are of common Dalmatian marble, and, towards the bottom of the eminences, the ſtone is leſs rough, and quite full of marine exotic bodies, which may be moſtly reduced under the genus of *Orthoceratites*, though diſtinguiſhable by particular articulations. The ſubſtance of ſome of theſe bodies is remarkably porous, notwithſtanding the change they have undergone; and innumerable little cells may be diſtinguiſhed, by the help of an ordinary glaſs. Obſerve at fig. 12, one of the moſt curious ſpecimens; it is now in England, in the precious collection of the Earl of BUTE, the noble Mecænas of natural hiſtory in that kingdom. The following fig. 13. was carefully drawn by Count Fauſto Dragenich Veranzio, from a ſpecimen in my poſſeſſion, which came from the *Iſole coronate*. The interior part *a*, *a*, minutely ſtriated, is the *nucleus* of the *Orthoceratites*, compoſed of a very bright ſpato-calcareous cryſtalifation; and, on breaking theſe *nuclei*, the veſtiges of concamerations, divided in two, by a partition, are often found. The outer part *b*, *b*, is alſo ſtriated longitudinally, like an imperfect *Amiantus*, and is the ancient ſpoil of the animal, converted into a leſs white, and leſs bright ſpar, though very cloſe. The ſubſtance *c*, *c*, which encloſes this petrifaction, and covers its exterior lineaments, is a hard whitiſh common ſtone. It would be tedious to deſcribe the variety of this ſpecies of petrifaction, which is met with all along the coaſts of Dalmatia, though Donati could hardly find any diſtinguiſhable foſſils there. I will only add one more (fig. 14) which repreſents a piece of lapideous

lapideous *Orthoceratites* with the external ſuperficies ſtriped and channeled, ſomething like the cardo, or hinges of a ſhell.

A ſhallow and narrow canal, which at low water does not admit the paſſage of boats, divides this iſland from the continent; and attentively examining the oppoſite banks, it is eaſy to perceive that this ſeparation is not very ancient. The extremity of Simoſkoi, that ſtretches towards the neighbouring ſhore, is compoſed of white ſaline marble, * the ſame as that of the ſhore oppoſite to it. It is not unlikely, that the intermediate ſpace was dug up in former times, to furniſh materials for the ſculptor; and this conjecture appears the more probable, becauſe the marble of Simoſkoi reſembles the ancient ſtatuary marble uſed at Rome. The corroſion effected by the ſea ſalt on the portion of this ſtratum that remains alternatively above, and under water, according as the tide ebbs and flows, rendering the ſuperficies of the marble rough and knotty, diſcovers a quantity of fragments of the marine cryſtallized bodies that compoſe it. The naturaliſts, and ſome of the moſt celebrated, as Swab, and Raſpe, have ſuppoſed the ſubſtance of ſaline marble void of extraneous bodies; and, indeed, I will not pretend to affirm, that, in all ſaline marbles, the veſtiges of ſuch bodies are preſerved ſo as to be diſtinguiſhable. Yet before I denied it, I would viſit the quarries, and examine pieces that had been long expoſed to be waſhed by the ſea, and to the action both of the air and the ſun. The marble

* *Marmor (micans) particulis ſpathoſo-ſquamoſis.* Linn.
Hoc petrificatis deſtituitur. Swab.

Of this marble of the iſland Simoſkoi there ought to be a variety ſpecified *quæ petrificatis ſcatet*, and the ſame thing may be obſerved in the ancient Roman ſtatuary marble, which was very different from the ſaline marble of the Greek iſlands, whereof ſtatues were alſo made.

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marble of Carrara, at leaſt at firſt ſight, ſeems to fall under this learned and ingenius explanation. But however this may be, it certainly admits of no doubt, that the white marble of Simoſkoi is preciſely of the ſame nature as the ancient Roman ſtatuary marble; and hence it would be of no ſmall importance to examine this ſpot carefully, in order to diſcover if pieces of a proper meaſure could be dug up. It is ridiculous to think of drawing advantage from marble that appears above ground, or to form a judgment of it from the ſuperficies of the exterior ſtratum. And if the quarry of Simoſkoi was not found proper for ſtatuary uſes, a ſearch might be made in the neighbouring parts with almoſt a certainty of ſucceſs.

On this iſland ſome foſſil bones are found, though in a very ſmall quantity. But on Rogoſniza, and the rocks of *Muja* and *Pianca* contiguous to it, they are found in large maſſes. The ſituation of *Rogoſniza* lies ſo much out of the way, that nothing but the violence of contrary winds can induce veſſels to touch at it. It is ſituated in a large bay, and may ſerve for a harbour to ſmall veſſels. The inhabitants are poor and wretched. The *Orthoceratites* prevail in the lower ſtratum of the marble on this iſland; in the clefts there are maſſes of flowered alabaſter, or as it may rather be called, red veined ſtalactites. I ſaw foſſil bones there, at a diſtance from their native ſituation, confined in large broad pieces of concreted ſtone, and accidentally placed before the houſes of thoſe peaſants. Walking about the habitations of Rogoſniza, I happened to diſcover, in the hard marble rock, a curious foſſil very much reſembling horns, and recollect to have obſerved, in the publick muſeum of natural hiſtory at Padua, a piece of the ſame ſpecies, under the denomination of *Cornu Vacinum*. I am however, of opinion, that the ceratomorphous foſſil of *Rogoſniza*, as well as the other at Padua, are *Orthoceratites* of which the

the ſpecies are now loſt, or are the produce of more diſtant ſeas. You will probably ſay that the name of *Orthoceratites* is but ill ſuited to a recurvous foſſil; and I agree with you; ſo you may call it, if you pleaſe, *Campiloceratites*.

I hope this long letter may induce you to make me a ſimilar return; and if you think I have detained you with particulars not very intereſting, exert your generoſity by giving me a hundred for one, as you can well do it without fear of impoveriſhing yourſelf.

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MAP of the Territories of TRAV, SPALATRO, AND MAKARSKA; the PRIMORIE and NARENTA, with the Adjacent ISLANDS.

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TO

Mr. J. JAMES FERBER,

MEMBER OF THE MINERALOGICAL COLLEGE

OF

SWEDEN,

FELLOW OF SEVERAL SOCIETIES, &c.

Of the County of TRAU.

AT our laſt parting, when you undertook your journey through the mountains of Italy, for the purpoſe of thoſe obſervations which have ſince gained you ſo much honour, and done ſo great ſervice to the learned naturaliſts of the north, then not well acquainted with ancient volcanos, I promiſed to communicate to you a part of my obſervations on Dalmatia, whither I was alſo preparing to ſet out. You required a ratification of my promiſe in writing, when you favoured me with your friendly letters in that diſtant province; and now, ſince I am deprived of the honour and happineſs of your company, in viſiting this country, where your inſatiable deſire of ſeeing new objects relative to natural hiſtory, cannot on that account be gratified, I will readily proceed to the performance of my promiſe.

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Of the Diſtrict of TRAU.

The juriſdiction of Trau, begins oppoſite to the iſland Rogoſniza, and extends, for thirty miles along the ſea coaſt, almoſt to the ruins of Salona, comprehending ſeveral inhabited iſlands, beſides a greater number of uninhabited rocks. One of theſe is called the little *Pianca*, and held to be dangerous in navigation, by its being expoſed to the open ſea, while the others are defended by the larger iſlands.

One cannot help ſmiling, when, in the firſt volume of the *Illirico Sacro* of the Jeſuit F. Farloti, we are told, that the paſs of the Pianca is ſo much the more dangerous, becauſe, there the waters of the rivers Narenta and Cettina meet thoſe of the Kerka in different directions. The truth is, that the mouth of the Narenta lies at leaſt eighty five miles diſtant from this place; and that river runs ſo ſlowly into the ſea, that the tide riſes above twelve miles up its current. The river Cettina is forty miles diſtant from the Pianca, and loſes itſelf in the ſea below Almiſſa. Beſides, the Kerka falls into the lake of Scardona, at leaſt thirty miles from the Pianca, and twelve from the ſea, whither it is conveyed, together with the waters of the large harbour of Sibenico. From this blunder of a very learned man, writers ſhould learn not blindly to truſt to the informations of ignorant people. Among the moſt remarkable places on the coaſt under the juriſdiction of Trau, a lover of antiquity will certainly take notice of *Trau vecchio*, or old Trau, as it is vulgarly called. It lies at little more than twenty four miles from Sibenico, and about nine from Trau. Giovanni Lucio, the celebrated Traurine writer, believed this ſpot to have been antiently the *Prætorium* of Peutinger's table. I am not

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not willing to attribute to the Romans the choice of ſo bad a ſpot, nor ſo bad a taſte in building. The ſituation is unhappy in every reſpect; being out of the way, without a harbour, and without cultivable land; the building is very coarſe, without any mark of ſquared ſtones, according to the good Roman architecture. The ruinous walls which bear the name of old Trau, appear to me rather the remains of ſome vaſt private habitation than of even a midling population; they are compoſed of irregular ſtones taken from the contiguous hill.

The floors, which in ſome places ſtill remain, are of a coarſe mixture, though bound together by ſo ſtrong a cement, that it ſtill reſiſts the force of time and of the ſea. I am inclined to believe theſe ruins rather of Grecian architecture of later ages than the Roman; and a kind of chapel, that is ſtill diſtinguiſhable, increaſes my ſuſpicion. In all the neighbourhood of this deſolate place, no inſcription of any kind is to be found; not one hewn ſtone, or piece of moſaic, or fine marble; things that are always ſeen, in more or leſs quantity, where the Romans inhabited.

The rock which abounds all along the ſhore of old Trau, is full of marine fiſtular bodies, of the ſame kind as thoſe I obſerved in the iſlands of the channel of Zara, and which are very frequently ſeen in the *Iſole Coronate*.

Of Bossiglina, *and the Peninſula* Illide, *or* Hyllis.

A few miles beyond the ruins juſt deſcribed lies the hamlet of Veneſchie, near port Mandola, where, formerly there was a mine of *Peſſaſphaltus*; but I could not poſſibly find any ſpecimen of it. On the road to Trau lies the village of Boſſiglina, in whoſe denomination Lucio thought he ſaw clearly the

corruption of the name of the *Bulini*. He ventured to fix very narrow limits to the peninſula Hyllis, ſuffering himſelf to be led by the etymological conjecture, that if the Bulini inhabited this tract, there remained, of courſe, no other room for the Illi, beſides the ſmall extent of ground, known, by old geographers, under the name of *Promontorium Diomedis*, and which ſtretches into the ſea between the iſland of Rogoſniza, and the village Boſſiglina, a feod of the ſee of Trau. Thus, the extent of Hyllis, from one point to the other, would be no more than twelve miles, and its greateſt breadth would not exceed five; meaſures which ſeem by no means to agree with the deſcription left us by Scimnus Chius, who calls it a large peninſula, and ſays it was thought equal to the Peloponneſus. No veſtige remains of the fifteen cities which we are told this peninſula contained; and fifteen cities would have occupied a great part of the narrow ſuperficies juſt mentioned. The paſſage of the ancient geographer is as follows, "To theſe (the Liburni) is united the nation of the Bulini. Then there is the large peninſula of Illis, thought equal to the Peloponneſus. They ſay there are fifteen cities on it, inhabited by the Illi, who were originally Greeks, as their founder was Illus the ſon of Hercules. Theſe, however, in the courſe of time became barbarous, as it is ſaid, by mixing themſelves with other nations."*

It appears more probable that ſo great a number of cities ſtood on the tract of country which lies between the mouths of the river Tizio (always fixed as a boundary of Liburnia) and thoſe of the Tiluro; which ſpace approaches near to that of the Peloponneſus, and includes the fine lands of Knin, Petrovopoglie, Seign,

* Scymn. Chius inter Geograph. min. Hudſon. V. 403, & ſeq.

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Seign, and the territory that lies around the buried ruins of Promona, which was the centre of the Illyrian country, properly ſo called, at the time of Auguſtus. The name of Illide was alſo given to the mountainous peninſula of Sabbioncello, which ſtretches into the ſea between the mouths of the river Narenta, and the iſland of Curzola. But the authors, who gave it that name, had not well examined the deſcriptions of ancient geographers, which are far from agreeing with thoſe of Sabbioncello.

Whatever were their ancient origin, the inhabitants of Boſſiglina, of our days, are ſo poor, that they are often obliged by neceſſity, to grind the roots of aſphodel, of which they make a very unwholeſome bread, which cannot but contribute to perpetuate their weakneſs and miſery. The conſtant complaints produced by this hurtful root, are pains of the ſtomach, and hemorrhages. I cannot enough wonder that the poſſeſſors of lands and feudatories of Dalmatia, generally mind ſo little the ſubſiſtence of their peaſants, who, really, have need of others to think for them. The plantation of cheſnut trees, which has never been attempted in any part of this province, would certainly thrive well in the inland mountains, and might ſoon produce a healthful food for the poor. Potatoes would alſo prove of great benefit to them, and they would ſurely rather feed on thoſe than on the root of orus, aſphodel, or boiled juniper berries, food too much uſed in years of ſcarcity, by many wretched inhabitants of the iſlands, and on the ſea coaſt. You know well how uſeful potatoes have been to your native country, where they ſupply the place of bad bread, which the ſqualid peaſants, particularly of Delecarlia uſed to eat in times of ſcarcity.

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The wool of Boſſiglina is of a much better quality than that of the neighbouring parts, and this difference is probably the conſequence of the attention of ſome former biſhop, who thought it worth his while to migliorate the race of ſheep, by importation from Italy. And there is reaſon to hope for ſome greater benefit to thoſe poor vaſſals, from the humanity, and knowledge of the preſent worthy biſhop of Trau, Monſig. Antonio Miochevich.

Not far diſtant from Boſſiglina, ſtands the village of Seghetto, on the ſea coaſt; it is ſurrounded by well cultivated fields, which, riſing gently towards the mountains, afford, in every ſeaſon of the year to mariners, a very agreeable proſpect of olive woods. From this village, the road leads to Trau, over a plain, at a ſmall diſtance from the ſhore.

Of the City of TRAU, *and the* MARMOR FRAGURIENSE *of the Ancients.*

Trau, called by the Slavi *Troghir*, is diſtant from Sibenico about thirty-four miles by ſea; and though not a city conſiderable for the extent of its walls, or the number of its inhabitants, yet it is famous on account of the antiquity of its foundation, the learned men it has produced, and for the ſpirit of concord which reigns among its citizens. The Syracuſans, multiplying in the iſland of Iſſa, beyond the proportion of its ſmall limits, detached a colony, which came and built Trau. The ſituation they choſe is a proof, that the Greeks, wary and provident at all times, did not degenerate when tranſplanted into other countries. The city ſtands on a ſmall artificial iſland, joined to the continent, by a wooden bridge, and to the iſland of

of Bua, by a ſtrong wall, or bank, interſected by two ſtone bridges, and a draw-bridge, that ſerves for the paſſage of ſmall veſſels.

The breadth of the canal, between the city and the iſland of Bua, is about thirty-five feet, and is much frequented by ſmall barks, which, in coming from Zara to the eaſtern extremity of the province, are afraid of the open ſea, and endeavour to ſhelter themſelves within the iſlands.

The celebrated Giovanni Lucio, born at Trau, of a noble family, now extinct, publiſhed a voluminous hiſtory, full of records and good informations relative to that city. Trau has produced many learned men, and in the library of one of them, was found the famous codex of Petronius, with the fragment of Trimalcion's ſupper. Yet I could diſcover no traces of this codex which Spon had the good fortune to ſee in 1675. Coriolano Cippico, Marino Statileo, Tranquillo, and Paolo Andreis, are the moſt illuſtrious names among the Traurine *literati*. Of theſe, and others, I, perhaps, at a more convenient opportunity, may give ſome particular memoirs, availing myſelf of the learned labours of the worthy biſhop now buſy in collecting them; if he himſelf, who can do it in a ſuperior manner, does not give them to the publick for the honour of his nation.

Pliny briefly mentioning Trau, diſtinguiſhes it from the other Roman ſettlements, for the celebrity of its marble; *Tragurium oppidum Romanorum marmore notum*. Vitaliano Donati imagined, that the *marmor Tragurienſe* of the ancients, was the ſame as that known in our days, under the name of marble of Iſtria,

or

or of Rovigno. Perhaps it may be ſo, and I will not venture to aſſert preciſely the contrary, againſt the opinion of ſo great a man. But I may ſafely affirm, that, if the Traurine marble had been of the ſame ſpecies with the hard common ſtone, which moſtly compoſes the ſhore and iſlands of Iſtria, and Dalmatia, the Romans needed not to go ſo far as Trau to fetch it: For the hills in the neigbourhood of Rome, which overlook the Pontine marſhes, as far as Terracina, (without mentioning the Mediterranean hills of thoſe parts) are moſtly compoſed of the very ſame kind of marble, which I believe I may call marble, or hard ſtone of the Apennines, ſince the maſs of that whole chain of mountains is almoſt totally formed of it. Now it is certain, that with much leſs expence, they could have brought large maſſes from Terracina to Rome, than from Dalmatia. Neither can it be alledged, that the Romans were not acquainted with the quarries of the Apennine marble, or knew not how large pieces they might extract from thence. Among other places, where the labours of their ſtone-cutters appear, that piece of marble mountain cut perpendicularly on the bank of the ſea, for a hundred and twenty feet, juſt near Terracina, to remove an incommodious paſs in the Appian way, is very obſervable. You doubtleſs examined it, in your paſſage that way to Naples, to viſit Veſuvius. Beſides, if the Romans had choſen, through caprice, which cannot be attributed to ſo wiſe a people, to bring a very common marble from a diſtant province, they would not, at leaſt, have brought it from Trau, but rather from the eaſtern parts of Dalmatia, or from the nearer iſlands, which equally abound with it, and where there alſo were Roman ſettlemements. Add to this, that, among the ruins of Rome, no works of this kind of marble are ſeen; and it is evident, that, in the ancient fabricks, they always uſed the hard ſtone of Tivoli, called Travertine

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vertine in our days; or the Peperine taken from the hills near the city itſelf, not from Piperno; and laſtly the ſandy vulcanic *Tophus*, which was brought from the hills of Marino.* In colonnades, and other ornamental parts of ancient buildings, beſides granites, porphyry, and other vitreſcent marbles, there are to be ſeen calcareous *breccia* of various ſtains, and ſolid marble of different colours and ſubſtance, brought from different countries. Among theſe ſtones of the ſecond claſs it would be requiſite to ſearch for the *Tragurienſe*, which nobilitated its native ſoil. It probably was a variegated *breccia*, now confounded with the African marble, as the tops of the hills over all Dalmatia furniſh various and noble ſpecimens. It is alſo very likely, that the ancients found ſtatuary marble in the neighbourhood of Trau: but it is impoſſible to gueſs where the quarry is, unleſs it happened to be diſcovered by chance, or by a perſon employed on purpoſe to examine the whole country with minute attention? I endeavoured, though unſucceſsfully, to find the ſaline marble near Trau; and an attempt was made to impoſe on me, by ſhowing me a piece of Carrareſe marble, and pretending it was taken from the hill of S. Elia, near the city, where, in a rocky ſituation, there are ancient quarries, not quite vulgar, though very far inferior to the Carrareſe marble. It were well if all travellers uſed the ſame precaution that I conſtantly did, before they aſſerted a fact on the faith of another,

* It is ſtrange that the celebrated Wallerius confounds the *lapis Peperinus* with the *Travertinus*, and, by the deſcription he gives of both, ſhows, that he knows neither of them well. Pag. 356, 357, of the new edition 1772, of his Mineralogical ſyſtem; truſting to *d'Arcet*, he aſſerts, that the Peperine ſtone is not vulcanic; yet at page 422, forgetting himſelf, he acknowledges the Peperine or *Tibertine* to be vulcanic, believing theſe two very different ſpecies one and the ſame. How many corrections would the moſt celebrated writers make in their ſyſtems, if they travelled a little more!

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and go to the ſpot themſelves, or, at leaſt, to threaten to go, whatever difficulties may lie in the way. At all events, the ſtone of S. Elia deſerves ſome conſideration, if not for its whiteneſs, at leaſt for the facility there is in working it. It alſo takes a fine poliſh, and is of a very cloſe grain; and though not ſo well ſuited to noble works of architecture, it would anſwer very well for more ordinary ſculpture, and placed leſs within the reach of the eye of an examiner. Without all doubt the ancients made uſe of it.

Few inſcriptions, and no remains of Roman buildings are preſerved at Trau. The *lapides* are already publiſhed in the collections, yet ſome of thoſe that formerly were there, are now no more to be found.

Of the Iſland of Bua.

The Iſland of Bua, called *Bubus* by Pliny, is united to the city of Trau in ſuch a manner, that I do not think myſelf at liberty to ſeparate them, though the former contains ſuch a variety of objects, as to deſerve an article by itſelf. The numerous habitations, on that part of the ſhore of Bua, that looks towards Trau, might very properly bear the name of a burgh, and would indeed appear very conſiderable, if its vicinity to the city did not obſcure it. It muſt be confeſſed, however, that the ſituation of the burgh is, by far, more pleaſant, than that of the city. In the times of the decay of the empire, it was called *Boas*, and ſeveral illuſtrious men, that fell under diſgrace at Court, were baniſhed to this iſland; among whom were Florentius, maſter of the offices of the Emperor Julian, Immentius de Valenti, and the heretick Jovinian. The emperors of Conſtantinople,

ple, either were not much acquainted with this pretended Siberia, or were willing to treat the baniſhed with great clemency. It is certain that the climate of this iſland is exceeding mild; the air perfectly good; the oil, grapes, and fruit excellent; and the ſea around it abounds in fiſh, and the port is large, and ſecure. Neither is it ſo ſmall that a man has not room to walk, and ride about as much as he pleaſes; for it is ten miles in length, and about twenty-five in circuit; nor can it be ſaid to be rugged, though rather high and mountainous.

In the village of Bua, a palm tree ſprung up forty-three years ago; it ſtands continually expoſed to the changes of the air and ſeaſons, yet, ten years ago, it begun to bear dates, and ſince, never fails to produce a large quantity yearly. Theſe dates, it is true, are not of the moſt perfect quality; but they are eatable, though they have ſomewhat too much ſharpneſs, which proceeds, I apprehend, from the ſeverity of the winter, to which the tree is careleſsly abandoned; for however mild it is on the iſland of Bua, the winters in Africa, and Aſia, where the palm trees grow in their native ſoil, are certainly much milder. The dates, that the palm tree of Bua produces, are without any ſtone, perhaps through want of fecundation from a male tree near it. Inſtead of ſtones, they have a cavity, the ſides of which are a little harder than the pulp. I make no doubt, that, if the owner of the palm tree had it covered during the ſeverity of the winter, it would produce ſweeter and better dates.

I found on this iſland various kinds of marble, and ſtone: There is plenty of white marble for building, like that of Iſtria, of a coarſe grain, and that flies off in ſplinters like a flint ſtone; alſo a laminated marble of the ſame nature, in the

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ſuperficies of which are often ſeen impreſſions and protuberances of foſſil marine bodies. But the lenticular marble prevails, though not always of equal hardneſs; there are ſome veins of ſoft calcareous ſtone, obedient to the chiſſel; concreted clay, and maſſes of ſtalagmitic ſpar, known by our ſculptors under the name of flowered alabaſter. Flints of various colours and figures are often ſeen bedded in this marble, as well as ſcattered on the ſchiſtous earth, that, here and there, divides the veins of ſtone; and frequently are ſurrounded by aggregates of petrified marine bodies. I did not find, either in this iſland, or in any part of Dalmatia, where flint ſtones are obſervable in marble, a verification of the fact aſſerted by M. de Reaumur, who, treating of their origin, in the memoirs of the academy, ſays, that flint ſtones, for the moſt part, affect a kind of rotundity. On the contrary, in the iſland of Bua, they are, for the moſt part, irregularly angular, in large pieces, with an even ſurface, viſibly interrupting the continuity of the marble. They ſeem, as it were, to have fallen from a higher place by ſome accident, and, without ſuffering fluitation, to have been buried by their own weight in the marine mud, and afterwards, in the courſe of years, became hardened into marble under water, then remaining dry through the ſpace of other ages, it underwent all thoſe revolutions whereby continued ſtrata are torn aſunder, mountains are divided, and their parts carried away, triturated into gravel and ſand, which parts at laſt remaining inſulated, by the introduction of remote ſeas, the waves of which, daſhing impetuouſly againſt theſe new iſlands, diſcompoſe their baſes, and corrode, by little and little, the long labours of more ancient waters.*

The

* This paragraph appearing rather complicated and obſcure, the author was deſired to ſeparate his ideas, and to give a brief explanation of them, which could be

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The flints of Bua, and generally thoſe of the whole province, that are found buried in marble hills, bear evident marks of having been ſeparated from a continued maſs, in ſo much that I am

be inſerted by way of annotation. He very readily complied, and the tranſlation of his anſwer is as follows.

The angular figure of the flints enveloped in the ſtrata of the iſland of Bua, and their lodgement in matter of a very different nature and ſubſtance, made me think, that they muſt have fallen from mountains higher than the iſland itſelf. But as they are found buried in calcareous ſtrata, compoſed manifeſtly of marine fragments and mud, it is neceſſary to ſuppoſe, that thoſe ſtrata were in a ſtate of ſoftneſs, and conſequently under water, at the time of the fall of the flints from higher hills. Theſe ſtrata, in the courſe of ages, muſt have become petrified, and others have been depoſited above them, which have alſo been ſucceſſively petrified. The ſea, forſaking, by little and little, its former ſituation, left dry, who can tell what vaſt tracts of land, among which was the country now called Dalmatia, as well the continent, as the neghbouring iſlands; though it is not to be ſuppoſed, that it was left in the ſame configurarion as it appears at preſent. The correſpondence of paralelliſm, and local inclination, manifeſtly diſcernible between the ſtrata of the iſlands, and thoſe of the adjacent continent, ſeems to prove, that, in ancient times, the whole formed only one continued maſs. The waters of the mountain torrents beginning, by degrees, to excavate diviſory hollows, formed, from the ſolid continued maſs, many promontories, and hills, divided in various ways, according to the directions of their courſes, which, as every one knows, who travels with philoſophical reflection among the mountains, are ſubject to eventual, as well as permanent changes; by theſe torrents the great maſſes being undermined and ſubverted, have been reduced to a ſtate of gravel, afterwards rolled and ſhattered, and at laſt corroded, and reduced to duſt.

The ſtate of mountains, and of valleys watered by rivers, and torrents, does not perſiſt, perhaps, beyond a certain period determined by nature, and hitherto unknown to us, as it relates to the return of the waters of the ſea to their ancient ſeats; who knows by what road? By the ſtraits of Gibralter perhaps? The diſtant ſea advanced towards thoſe ſtratifications, anciently formed by accidental waters,

am tempted to believe they have been torn from large ſtrata of mountains, which now do not exiſt; notwithſtanding the learned naturaliſt, juſt named, writes, that flint ſtones are never found depoſited in ſtrata.

In ſupport of my conjecture, I remember to have obſerved on the ſpot, and find minutely deſcribed in my journals, a ſtratum of green flint-ſtone, which traverſes horizontally the vulcanic matter of one of the inſulated hills of Montegaldo, between Padua and Vicenzo, called montelungo. And I have very often ſeen black flints diſpoſed in ſtrata in the Euganean hills, and particularly where they are formed of that ſpecies of white calcareous ſciſſile and pyritaceous ſtone, called by us *Scaglia* and *Albereſe*, in moſt other parts of Italy. It is true, that I have alſo ſeen, on the ſhore of Monfredonia, adventitious flint ſtones rounded by water, in prodigious quantities; and, ten miles up the country, at the paſſage of *Candelaro*, rounded flints, with the external coat white, detached and confined in a very brittle ſpecies of marine *tophus*, formed of foſſil madreporei, and fragments of petrified *teſtacei*. But neither the flints of Manfredonia, nor thoſe of the little hill adjacent to the *Candelaro*, are natives of the places where they actually are, but manifeſtly have been brought from other parts.

From

waters, and afterwards divided and ſhattered by the torrents, occupying all the depth of the vallies, which became channels, and ſea bottoms, and ſurrounding the mountains, changed them into iſlands. Now the waves daſhing againſt their roots, go on undermining and waſting them, firſt reducing the ruins into rough angular ſtones, then into round gravel, afterwards into ſand, and at laſt into duſt, and impalpable earth, and thereby form, in the bottom of the ſea, the baſis and ſtructure of future continents, which, in their turn, will probably undergo the ſame revolutions, to an indefinite time.

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From theſe facts, I think I may be allowed to call in queſtion the univerſality of Linnæus's doctrine: *Silex naſcitur in montium cretaceorum rimis, uti quartzum in rimis ſaxorum.* * Yet that learned naturaliſt ought not to be accuſed of want of exactneſs on this account; he would have changed his opinion, had he travelled in our ſoutherly countries, or had he received information from our obſervers. If finding the flint ſtones frequently diſpoſed in ſtrata, proves that M. de Reaumur was miſtaken, when he ſaid they are moſtly adventitious; in like manner, the great quantities of rounded flints frequently found diſunited, and which probably became ſo after having been diſengaged from the cement of *breccia* marble, prove, that M. Linnæus was greatly miſtaken, in preſcribing to them the abſolute law of having their origin in the clefts of cretaceous hills. I have many times found the flint ſtones in the act, as it were, of paſſing from the calcareous to the ſiliceous ſtate; and particularly I have often met with them involved in vulcanic matter. I have even gone ſo far as to diſpoſe in ſeries the various degrees of this paſſage, and have had the pleaſure of ſhowing it to many of our learned friends.

The flints of Bua, fixed in marble, are ſometimes ſurrounded by an ochreous cruſt, not much thicker than half a line; ſometimes they are maculated with ruſt, and, when wrapt in clay, or in fragments of marine bodies unequally petrified, they ſometimes affect a kind of roundneſs. There are ramous, cylindrical, globular, and oval flints; but theſe forms are common alſo to many pieces of ſtones not ſiliceous, which are frequently found blended with them, and on the outſide are not eaſily diſtinguiſhed from them. A cylindrical flattiſh flint ſtone, which I cauſed to

* Linn. Syſt. Nat. Silex.

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to be poliſhed, is altogether penetrated by veins of calcareous cryſtallized ſpar, which ſurround ſmall bits of flint, full of minute marine bodies, of the frumentary kind. This piece is well calculated to puzzle any one who flattered himſelf that he had a clear idea of the formation of flints. Henckel, in his *Pyritologia*, after having ſaid much on the ſubject, confeſſes, that it was unintelligible.*

Concerning a Mine of PISSASPHALTUM.

The foſſil curioſity of Bua, which, in my opinion, merits greater attention than all the reſt, is the mine of *Piſſaſphaltum*. I venture to call it a mine, however improper the term may appear, that I may not be obliged to call it a ſpring, which would ſeem ſtill a more ſtrange denomination. The iſland of Bua is divided into two promontories, between the weſt and north, one of which faces the iſland of Salta, and the other is extended oppoſite to Trau. Croſſing over the top of this laſt, which is not half a mile broad, and deſcending in a right line towards the ſea, one is conducted to a hole well known to the inhabitants. This hole extends not much above twelve feet, and from its bottom, above twenty-five feet perpendicular, ariſe the marble ſtrata which ſuſtain the irregular maſſes that ſurround the top of the mountain.

The

* In the collection of the noble Venetian Giacomo Moroſini, there is, among many other valuable foſſil curioſities, a ſmall table of Jaſper, taken from the hills of Recoaro, near the mineral ſpring, whereof the ſubſtance of the ſtone, and the ſhells of the *Terebratulæ* and *Griphites* entangled in it are ſiliceous; and the internal of theſe marine bodies is full of a white and very bright calcareous cryſtallization.

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The Mines of PISSASFALTO in the Island of BUA.

J. Leonardis sculp.

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The place ſeemed to me ſo worthy of obſervation, that I cauſed a drawing of it to be taken. (P. VIII.) The hole AAA is dug out of an irregular ſtratum of argillaceous ſandy earth, in ſome parts whitiſh, and in others of a greeniſh colour; part of it is half petrified, and full of *numiſmales*, of the largeſt kind, *lenticulares*, and fragments, with, here and there, a ſmall branch of *madreporites*, and frequently of thoſe other foſſil bodies, called by Geſner *Cornua Ammonis candida*, *minima*, &c. The maſs B is fallen from the height of the rock, and lies iſolated. The excavation, made by ſome poor man in the ſofter matter, reaches a little below the extremity CC of the ſtratum DD. This is ſeparated by the line EE from the ſtratum FF, which is of hard common marble, with marine bodies, without flints. The upper part aa is of hard lenticular ſtone, interſperſed with flints full of *lenticulares*. The maſs H does not diſcover the diviſions of its ſtrata on the outſide, and tranſpires very ſmall drops of *Piſſaſphaltum*, ſcarcely diſcernable. But the tears III of the ſame matter, which flow from the fiſſures and chinks of the whitiſh ſtratum DD, are very obſervable. They come out moſt abundantly, when the ſun falls on the marble rock, in the heat of the day. This *Piſſaſphaltum* is of the moſt perfect quality,* black and ſhining, like the *bitumen Judaicum*; very pure, odorous, and coheſive. It comes out almoſt liquid, but hardens in large drops, when the ſun ſets. On breaking many of theſe drops on the ſpot, I found, that almoſt every one of them had an inner cavity full of very clear water.

The greateſt breadth of the tears, that I ſaw, was two inches, and the common breadth is half an inch. The chinks and fiſ-

 ſures

* Bitumen ſubfriabile piceum. Linn. Syſt. Nat.

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ſures of the marble, from whence this bituminous pitch tranſudes, are not more than the thickneſs of a thread, and, for the moſt part, are ſo imperceptible, that, were it not for the pitch itſelf, whereby they are blackened, they could not by any means be diſtinguiſhed by the naked eye. To the narrowneſs of theſe paſſages is, no doubt, in part owing the ſmall quantity of *Piſſaſphaltum* that tranſpires.

I have broken many different pieces of that hard calcareous ſtone, and conſtantly found within them black ſpots of lucid pitch, which ſometimes communicate with the exterior fiſſures, and ſometimes are like little inſulated drops, without a vent on any ſide. It appeared to me on the ſpot, that, from hence there might be ground to ſuſpect, that the pitch pre-exiſted in the calcareous earth, in the bottom of the ſea, before its concretion into ſtone.

The upper part of the hill is marble, with hardly any covering of earth; no trees grow upon it, nor could they grow, without much help of art. Who can tell whence it came there, and how, when the ſolar rays beat on thoſe rocks, the pitch tranſpires black and quite perfect? What very remote combuſtion of woods, or what volcano produced it? And at what prodigious diſtance of time, and difference of circumſtances? And how does that water enter, which conſtantly accompanies it, even in times of the greateſt drought? Does it come from the high hills of the continent, paſſing under the channel of the ſea, which divides the iſland of Bua from Trau? and, in that caſe, how can it aſcend through the very compact ſtrata of marble, of which the iſland itſelf is compoſed? Can it be imagined, that the heat of the ſun qualified thoſe maſſes to attract it from the ſea,

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ſea, which in ſome places inſinuates itſelf under them; or from ſome fountain deeply buried? I confeſs I am not ſatisfied with any of theſe conjectures; and therefore leave it to you, who are more converſant in ſuch obſcure matters, to account for this phenomenon. In various parts of Europe, and particularly in Auvergne, near Clermont-Ferrand, there is a hill that yields *Piſſaſphaltum*. Strabo makes mention of a remarkable place in Epyrus, in the territory of the Apolloniati, where it is gathered from the ground. But the hill of Clermont is volcanic, * and, in the neighbourhood of the mine mentioned by the geographer, there was † a rock that emitted fire, and there were hot baths contiguous. In like manner, from the hill near Caſtro, in the *Compagna Romana*, the bituminous pitch tranſpires, and is taken notice of by Boccone; but that place is quite ſurrounded by matter thrown up by ancient volcanos. On the iſland of Bua there is no veſtige of a volcano, either ancient or modern; neither is there any for many miles within the continent.

I remember that you once told me of a pitch, like the above-mentioned, that runs from the rocks in a province of Sweden, but you did not add that the hills from whence it iſſues were examined and minutely deſcribed by any of your countrymen. I find almoſt all the writers, who have treated of mineral pitch, have been very careleſs in examining the ſtrata from which it tranſudes; and I think it is a faulty negligence.

The *Piſſaſphaltum* of Bua is correſpondent to that foſſil production, which, by Haſſelquiſt, in his travels, is called *Mumia Minerale*;

* Aldrovandi, Mus. Metall. p. 382.

† Strab. Geograph. Lib. VII.

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Minerale; and *Mumia nativa Perſiana* by Kempfer, which the Egyptians made uſe of to embalm their kings. * It is found in a cave of mount Caucaſus, which is kept ſhut, and carefully guarded by order of the king of Perſia. One of the qualities aſſigned by M. Linnæus to the fineſt bitumen is to ſmoke when laid on the fire, as ours does, emitting a ſmell of pitch not diſagreeable. I believe it would be very good for wounds, as the oriental *mumia* is; and like the pitch of Caſtro, which is frequently uſed by the Roman chirurgeons, for fractures, contuſions, and in many external applications. †

Of articulated PATELLITES.

Among the many marine animals that are found in the port of Bua, and along the ſea ſhore, which is altogether encumbered

* "*Mumiahi*, or native Perſian Mummy. It proceeds from a hard rock in "very ſmall quantity. It is a bituminous juice, that tranſudes from the ſtony "ſuperficies of the hill, reſembling, in appearance, coarſe ſhoemakers wax, as "well in its colour, as in its denſity, and ductility. While adherent to the rock "it is leſs ſolid; but is formed by the warmth of the hands; it is eaſily united "with oil, but repels water; it is quite void of ſmell, and very like in ſubſtance "to the Egyptian mummy. When laid on burning coals, it has the ſmell of "ſulphur tempered a little with that of naphta, not diſagreeable——There are "two kinds of this mummy, the one is valuable for its ſcarcity, and great acti-"vity——The native place of the beſt mummy is far from the acceſs of men, "from habitations, and from ſprings of water, in the province of Daraab. It "is found in a narrow cave, not above two fathoms deep, cut like a well, out "of the maſs, at the foot of the ragged mountain Caucaſus." Kempfer. Amæn. Pers.

This deſcription agrees perfectly with the *Piſſaſphaltum* or foſſil mummy of Bua, differing only in the privation of ſmell, which it is difficult to imagine is totally wanting in the Perſian mummy.

† Boccone *Muſeo di Fiſica*, &c. p. 161.

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Jac. Leonardis sculp.

vered with maſſes fallen from the rocks about it, two ſpecies of oblong articulated *Patellæ*, called *Babuſche* by the fiſhermen, deſerve a particular deſcription, as they ſeem hitherto to have been but ill diſtinguiſhed, and worſe drawn, by the writers of marine natural hiſtory, eſpecially by Rumphius, and Ginanni, one of whom calls them *Limaci marini*, and the other *Patelle teſtudinate*.

The ſhell of this animal is of ſo elegant a ſtructure, that it appeared to me to merit a more accurate drawing. The fig. A. (Pl. IX.) repreſents it ſtretched out, as it naturally is, adhering to the plain ſuperficies of ſtones, or of other matter under water. It is compoſed of eight pieces, one over another, the ſcales of fiſhes, connected together by ſtrong tendons, by means of which the animal, when in motion, extends its length conſiderably more than when it lies ſtill. To this voluntary extenſion is alſo accommodated the coriaceous border, which examined through a glaſs, on the ſide that adheres to the ſtones, is altogether interwoven with papillary nerves, correſponding, perhaps, to an equal number of protuberances on the external ſuperficies.

Theſe *papillæ* ſupply a glutinous matter, that ſerves to keep the animal exceedingly faſt on the ſubſtance to which it adheres. When forcibly torn away two or three times, the animal remains without the means of faſtening itſelf anew, lying as dead for many hours, till its glutinous veſſels become full, and then it turns again upon its belly. When this animal is in motion it does not ſhow its head, but has it always covered by the coriaceous border, which moves all at once by the mechaniſm of a diſtenſion and prolongation of the above mentioned papil-

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lary veſſels, which ſerve inſtead of legs. In examining the body of this articulated animal alive, I did not obſerve in the foot or baſe, (which, like that of the common *patella* extends through the whole length of the animal) any diſtinct organ; perhaps the progreſſion of that callous ſole depends on the movements of the coriaceous border. The mouth is like that of the other *patellæ*, but the internal ſtructure is ſtill more ſimple; there being nothing to be ſeen but a continued bag from the mouth to the *anus*.

The excrements of this animal are ſmall cylindrical grains, and they take this figure in the bag juſt mentioned, which is often found full of them. Its food is ſmall ſea worms, and more frequently, the gelatinous ſubſtance of various ſpecies of *Polypi*, which propagate on the ſtones in the ſea. Although the articulated *Patella* is never found ſo near the ſhore, as to be left dry at low water, yet it loves the freſh air, and ſhows this love with ſingular preciſion. I kept ſeveral of them in cups full of ſea water to have them ready for the microſcope. They remained ſquat under water, as long as they heard any noiſe in the room; but I no ſooner went out, or ſat ſtill, and ſilent, for ſome minutes, than they moved directly towards the edges, and, when they felt themſelves above water, raiſed their coriaceous border ſometimes on one ſide, and ſometimes on the other, as if enjoying the pleaſure of the freſh air; and at laſt, contracting themſelves, they remained half above and half under water, or crauled upon the upper edge of the cup, where they ſtaid with one ſide quite raiſed up, that the air might penetrate the better under their wrinkled belly. The interior extremity, repreſented by Fig. B, much larger than nature, is very different from the poſterior Fig. C. though, at firſt ſight of the animal, they

they appear of the ſame ſtructure. The ſix vertebræ in the middle, Fig. D, are all ſimilar; and the border that ſurrounds them, beheld in the microſcope, exhibits a globular ſuperficies, exemplified by a ſmall bit of it in Fig. E. On the ſhell of this *Patella*, various ſpecies of very minute *Polypi* uſe to make their habitation, and particularly the *Eſcharie* build their houſes there. The teſtaceous pipes of different marine worms are alſo frequently adherent, and many of them are very elegantly turned in ſpiral wreaths, and faſciated, as repreſented in their true ſize, Fig. F, G, H, and magnified by the glaſs, in Fig. G, H, I. The colour of the ſhell of this *Patella* is various, not only in the individuals, but alſo in the *vertebræ*. Some of them are gray, others greeniſh, yellow, or black; and ſome have the extremities of one colour, and the *vertebræ* of another, or one *vertebra* red, and the reſt all pointed. I have a ſpecimen where the two extremities, and the half of the firſt *vertebra* are black, and the reſt green. M. Linnæus places this ſpecies among the *Chitoni* in No. VII.

The other ſpecies of *Patella*, repreſented by Fig. K, is not very common in the waters of Bua, and loves rather ſlimy bottoms, like that of the valley of Sloſella. I ſhould call it *Patella articolata, cotennoſo-teſtacea, adorna di fiocchi*. This *Patella* reſembles the firſt ſpecies in its interior ſtructure, but is very different without. Its border which approaches to a horny ſubſtance is hairy, and ſpotted with black on gray, terminating, all around, in little flattiſh pencils ſharp at the points. The number of *vertebræ* is equal in both ſpecies; but in this laſt, the ſwardy ſubſtance of the border fills up the exterior interſtices, forming in the connexions of the *vertebræ*, as many pyramids, which meet together at the points. The ſame *vertebræ*, Fig. L,

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have their incurvation more acute, and their teſtaceous part is covered with an *epidermis* pointed with very ſmall circlets, that correſpond exactly in Fig. M, N, to that already deſcribed Fig. E. But the greateſt difference, that characteriſes this ſecond ſpecies, conſiſts in its ornament of eighteen tufts or toſſels, of a ſilver colour, compoſed of filaments reſembling Amianthus. Theſe ariſe at the juncture of the *vertebræ*, and ſerve, as it were, for a baſe to the ſwardy pyramids above mentioned. Reckoning in this manner, the toſſels ſhould be only ſixteen, as the ſpoil of the articulated *patella* is compoſed only of eight parts; but they have two which are ſomewhat ſmaller than the others at the anterior extremity. The fig. O repreſents the ſixth part of one of thoſe toſſels magnified, and the columner hexagon P ſhews one of the filaments ſeen through a greater magnifier. I cannot imagine what uſe the animal makes of this apparatus. Linnæus deſcribes this ſhell, and makes it an inhabitant of the coaſt of Barbary, at No. IV. of the *Chitoni*. His deſcription, however, does not give a ſufficiently preciſe idea of the ſtructure of the animal, and is not very exact in the number and diſpoſition of the toſſels, nor about the colour of the ſhell, its arcuation, &c. *. One very rare ſpecies of faſciated chiton, with only ſix articulations, I found on re-examining my collection, after my return from this tour; and it is repreſented by the fig. Q. But, among more than a hundred octovalue chitons, collected with a good deal of pains, I could find only this ſingle ſpecimen.

An

* *Chiton teſta octovali corpore ad valvas utrinque faſciculato.*
Habitat in Barbaria.
Corpus cinereum, læve. Teſtæ leviter carinatæ. Faſciculi pilorum totidem, albidi, juxta teſtarum latera corpori inſident. Linn. Syſt. Nat.

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An infinite number of other curious living creatures propagate in the little openings of the port of Bua, among which I make no doubt there are many that would prove new to the naturaliſts: but much attention is required to obſerve them in their various ſtates; much time to diſcover their nature, and different qualities; a long examination of books not very common, and of farraginous collections; in order to be certain, that they have not been already deſcribed by writers of marine natural hiſtory. I have ſketched the hiſtory of ſeveral, but without intention of publiſhing it, till time and opportunity enable me to render it more complete.

Of the Sea Coaſt of TRAU *towards* SPALATRO, *and of the* MILO STONE.

The ſea coaſt of Trau, to the eaſtward, is well cultivated, but not extenſive. It reaches to the foot of the mountains, yet hardly in any part exceeds a mile and a half in breadth, including the plain, and the cultivable part of the mountain.

At two miles diſtance from the city, there ariſes, from the roots of mount Carban, a conſiderable ſtream of water, which would form no ignoble river, if it had a longer courſe, and did not, almoſt as ſoon as it iſſues from the ſubterraneous caverns, looſe itſelf in a ſalt pool, which ſomewhat hurts the air of Trau. The rocky maſſes, from which this large ſpring ariſes, are of hard lenticular ſtone; the middle part of the mountain is an argillaceous light-blue earth, in ſome places more, and in others leſs concrete; and the ſummit is of common whitiſh marble, *Breccia* and *Numiſmales*, indeterminately, as may be inferred from the gravel that deſcends with the eventual ſtreams of rain water,

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and in the perennial rivulets, by many of which that delicious coaſt is watered. Eight mill ſtones are turned in theſe corn mills, which are moved by horizontal wheels, whoſe *radii*, or ſpokes, are made in the form of ſpoons, according to the general cuſtom in Dalmatia. Here, for the firſt time, I ſaw mill ſtones compoſed of many pieces of Milo ſtone, with which I was not before acquainted: it takes its name from an iſland in the Archipelago. I cannot eaſily believe, that the iſland took its name from the uſe of the ſtone,* as it was called by the ancients Μῆλος, not Μῦλος. This kind of mill ſtones is uſed in almoſt all the corn mills of Dalmatia, in preference to heavy hard ſtone, becauſe they turn more eaſily and quickly, and conſequently do much work in little time.

The examination of the Milo ſtone convinced me, that, from this apparent advantage, real prejudice muſt be derived. It is white, full of hollows, and very light in proportion to its bulk. At firſt ſight of its irregular vacuities, the work of ſtillicidious water ſeems to diſcover itſelf; conſequently it ought to be claſſed among the *Pori aquei*: but compared with the black porous pumice heavy ſtones of ancient volcanos, it reſembles them much in its texture. In turning rapidly it wears, and mixes its vitreous angular particles with the flower, which renders the bread gritty, and of courſe muſt produce very bad effects on the human

* Criſtoforo Criſonio, the author of a geographical account of Iſlands, in MS. with cuts, preſerved in the library of the Counts Draganich Veranzio of Sibenico, aſſerts, that the iſland of Milo took its name from the mill ſtones. The Manuſcript ſeems to have been wrote about the end of the fifteenth century. Criſonio ſays, in the body of this work, that he had wrote another, expreſsly concerning the iſland of Crete. Notwithſtanding the prejudices of his age, this author (whoſe works I believe are not publiſhed) has merit.

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man body. The beſt way to uſe the Milo ſtone, would be, in the conſtruction of arches, and vaults, in imitation of the Pompejans, who built theirs of the black pumices of Veſuvius. It is lighter than any other ſpecies of ſtone, or *tophus*, and would not weigh much on the lateral walls; it is very apt to receive the cement through its many cavities; neither is it hurt by the air, or ſalt, which, in time, conſume all ſorts of marble, and brick, it being compoſed of little cryſtalline ſtones cloſely united. *

Beyond the mills of Trau, the pleaſant ſhore of the *Caſtelli* ſtretches itſelf to the ancient ruins of the city Salona; and the amenity of this narrow coaſt has been juſtly celebrated by all the writers concerning Illyricum. One of theſe caſtles is built where the *Siclis* of the Peutingeriana ſtood, and probably the *Sicum* of Pliny, where Claudius ſent his veterans. The vines and olives are ſo well cultivated here, that, from this ſhort tract of narrow ground is annually drawn the beſt part of thirteen thouſand barrels † of excellent oil, and fifty thouſand barrels of good wine, which, according to the beſt information I have had, is the produce of theſe two articles, one year with another, in the territory of Trau. The ſhore of the caſtles yields alſo a good proviſion of almonds, three thouſand quintals of figs, and ſome

* *Petroſilex opacus variis foraminulis inordinate diſtinctus.* Wall.
Pumex ſaxiformis, cinereus. Linn. 182. 6.
The white very light Milo ſtone ſeems not to be individually known by the naturaliſts beyond the mountains, although the general definitions of Wallerius, and Linnæus agree with it. Bomare is better acquainted with it than any other, but he calls it Quartz *carie*, a ſtrange denomination, rather poetical than mineralogical.

† A Venetian barrel contains about ſeventeen gallons.

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corn, which, however, is not the richeſt produce of thoſe parts. The internal part of the territory of Trau, which is about a hundred miles in circuit on the continent, produces very little wine, and ſcarcely any oil. The flocks that feed there, together with thoſe on the iſlands under the ſame juriſdiction, yield about four hundred thouſand pounds of cheeſe, and wool in proportion. The number of inhabitants in this territory is about twenty thouſand. *

Of noxious Inſects in the Diſtrict of TRAU.

In this ſoft climate, many noxious inſects are generated, which damage the productions of the earth of all ſorts; and it rarely happens that the cold in winter is intenſe enough to deſtroy, or even to diminiſh, in general theſe hurtful ſpecies. The moſt pernicious of all is the *Punteruolo*, called *Magnacoz* by the inhabitants. Beſides thoſe that live on the fruits of the earth, ſome are enemies to animals, and eſpecially to man. A ſpecies of Tarantula, very like that of Calabria and Apulia, is known here by the name of *Pauk*, which is common to all ſpiders in the Illyric language. The peaſants, who in the hot ſeaſon are obliged to work in the fields, are frequently bit by this venomous inſect, as well as by the variegated ſpider known in Corſica by the name of *Malmignatto*. The remedy which they make uſe of to calm, by little, and little, and to remove entirely the pain produced by the poiſon of the *Pauk*, is to ſeat the patient on a ſlack rope, well faſtened at both ends to the beams, and to ſwing him for five or ſix

* I think it juſt and neceſſary to declare, that the reſpective details relating to the products and population of the territory of Trau, were communicated to me in writing by Signor Pietro Nutrizio, a gentleman of that city, together with many other informations.

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ſix hours: a remedy analogous to the dance of thoſe bit by the Tarantula in Apulia. The *Pauk* of Dalmatia are hairy, and ſpotted like thoſe of Apulia, and are equally fierce and bold.

I am well acquainted with the race of theſe miſchievous inſects, having had frequent opportunities, in different places, of ſtudying them, and have alſo kept them alive for ſome time in glaſſes. You will have ſeen, in the collection of Giacomo Moroſini at Venice, one that I brought from Manfredonia a few years ago, and which lived there many months, on flies, notwithſtanding the difference of the climate.

Accept, my dear Friend, this long letter as a teſtimony of my conſtant and tender regard for you; and if you can ſpare an hour, now and then, from your ſtudies, pray write to me from thoſe diſtant parts, that I may have the leſs reaſon to lament that my native country is ſo far from that which your virtues and learning have contributed to render ſo illuſtrious among us.

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TO HIS EXCELLENCY

JOHN STRANGE, Esq;

HIS BRITANNICK MAJESTY's MINISTER AT VENICE, FELLOW OF THE ROYAL SOCIETY, &c. &c.

Concerning the Diſtrict of SPALATRO.

THE literary correſpondence, which, for ſome years, you have condeſcended to hold with me, would give you a right to my obſervations in Dalmatia, even if my firſt ſteps in that kingdom had not been made in conſequence of your goodneſs and friendſhip for me. But as I owe entirely to you the honour and advantage of having accompanied, through a part of Dalmatia, the learned and amiable Lord Hervey, biſhop of Londonderry, the continuation of whoſe valuable Friendſhip is a conſtant ſpur to my gratitude, I ſhould think myſelf wanting, in a very material duty, if I did not addreſs at leaſt a part of my obſervations to you. At the ſame time, I muſt confeſs, that if I did not know you to be a true and profound philoſopher, I might be aſhamed of the little I have to offer you, and ſhould think it an ill choſen time for ſuch an offering, when you are juſt returning from a journey in the Alps of Switzerland, and Auvergne, from whence you will certainly bring to us many magnificent objects of meditation. What a difference between Germany and France, and Dalmatia! Beſides, the naturally grand objects that preſented themſelves, you have, moreover, probably found a hundred inſtructive collections and valuable

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valuable works, relative to the foſſil kingdom; and, after having examined them, you have, doubtleſs, viſited the moſt intereſting ſpots in perſon, with the certainty of not going in vain. I, on the contrary, have been travelling over a vaſt country, where ſcience is but little cultivated, and where natural hiſtory is ſcarcely known by name. My expeditions were made at a venture; I often wandered over vaſt deſerts, and craggy mountains, with the hopes of finding ſomething to compenſate my fatigue, but was too often diſappointed. I could obtain no knowledge of uſeful or curious productions, but what I diſcovered with my own eyes; and I hardly met a perſon who was qualified to direct my ſteps rather to one ſide than to another. Under ſuch diſadvantages, I ſhould not have had the courage to addreſs my details to you, had I not known, that exact obſervations on common and obvious things, which have been ill examined by the generality of writers, are more intereſting to a true naturaliſt, than more wonderful and uncommon phenomena of ſmall extent, which uſually contribute not very much to ſupport general theories. I have learned from you many things in the art of obſerving, and your example has confirmed me in many particular cuſtoms of my own; hence, as it has often happened to you, ſo it has alſo ſometimes occured to me, that the aſſertions of reputable writers, on points of phyſical fact, are frequently falſe and erroneous. Neither the authority of few, nor the voice of many, can, I hope, impoſe on either of us to ſuch a degree, as to make us haſty in aſſerting things not examined by our own eyes. I therefore preſume, that the obſervations which I have now the honour to tranſmit to you, will be received with confidence, in regard to their exactneſs, in the ſame manner as thoſe you often favour me with are ever received by me. Reciprocal faith is both reaſonable and neceſſary, when

men,

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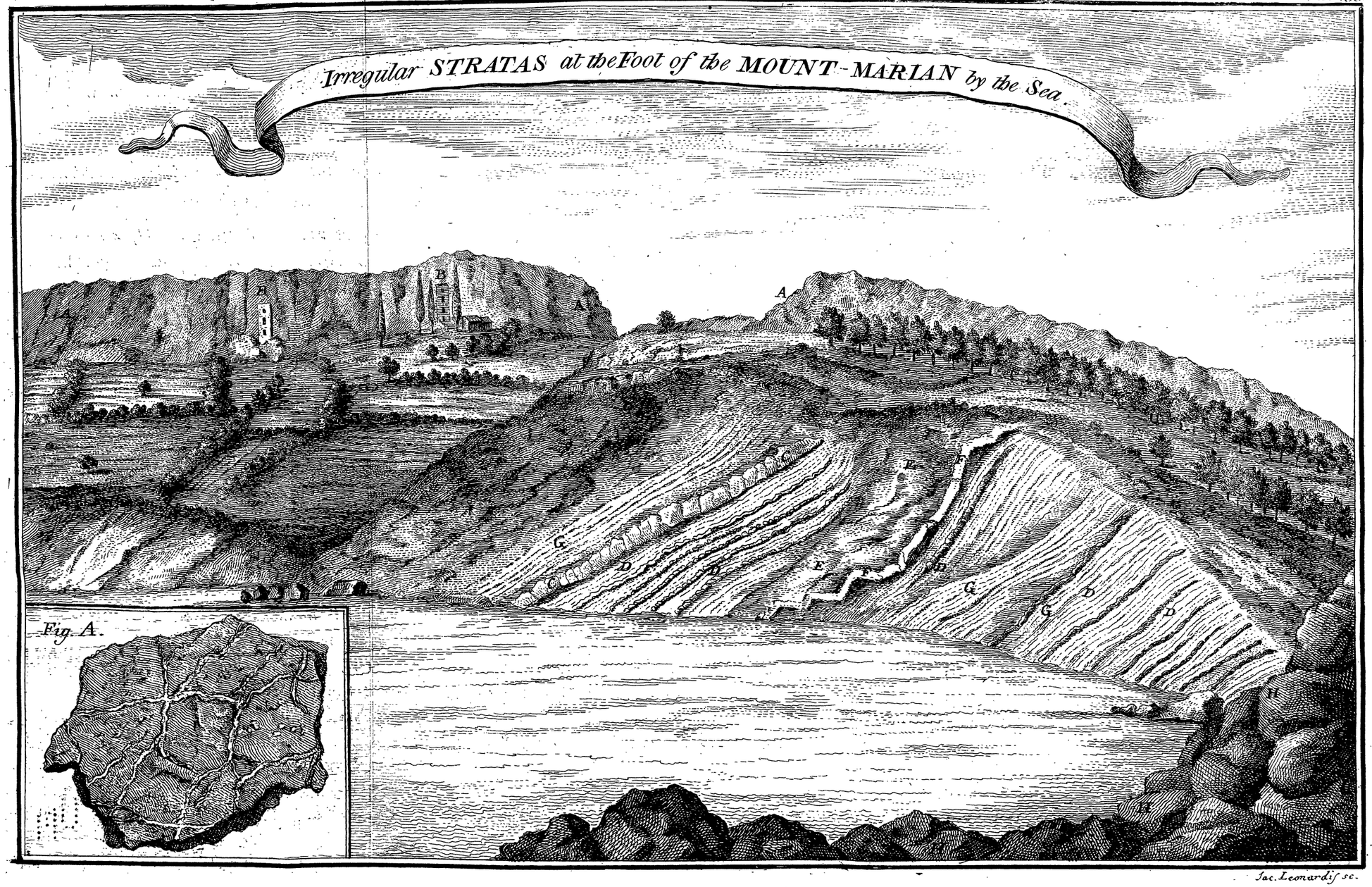
Irregular STRATAS at the Foot of the MOUNT-MARIAN by the Sea.



Jac. Leonardis sc.

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men, without the ſpirit of prejudice, apply themſelves to obſerve the ſtructure of mountains, the nature of waters, of animals, or of whatever other production of nature, with the ſole view to inveſtigate truth.

Deſcription of the Strata of the Promontory MARIAN---*Miſtake of* DONATI.

Between the mouths of the river *Hyader*, now called Salona, and of the *Xernovniza*, a rivulet perhaps not known to the ancient geographers, lies a promontory, whoſe point is formed by the hill Marian, and its baſe by the roots of the Moſſor. Coaſting along this tract in a boat, I made the rowers often reſt themſelves, that I might attentively examine the ſtrange modifications of calcareous matter, diſpoſed there in a manner quite different from the laws which the maſters of nature uſe to preſcribe, in elaborate diſcourſes on ſtratifications, without once ſtirring out of their ſtudy. Among many remarkable places on that coaſt full of variety, which, however, conſtantly have a cretaceous clayey baſe, I had a drawing taken of one, in the firſt creek of the ſame promontory, where, according to Peutinger's table, there was a temple dedicated to Diana. Pl. X. The ſummit of the hill AAA, is compoſed of common Dalmatian marble, and of hard lenticular ſtone interſperſed with flints. A large aperture is ſeen in it, made by the waters of very diſtant times, when theſe materials, that now compoſe the top, were the bowels of the hill, and the denticulations of the interrupted Strata are ſtill very diſcernible. From the exterior parts of theſe ſteep tops, large maſſes of ſtone are now and then detached, being ſeparated, by little and little, from the whole, by the ſecret labours of the rain-water, which ſometimes undermines and looſens the

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foundation, and more frequently multiplies its effects, by progreſſive filtrations, through concealed crevices and chinks of the marble, till, at laſt, the apparent continuity is divided. Sometimes, the maſſes that fall down, either in conſequence of the tacit and long corroſion of the waters, or by the too manifeſt ſhock of earthquakes, are of enormous bulk, and deceive haſty obſervers, who are not aware of the revolution. It may alſo happen, that large pieces of the hill, tumbled from above, may remain inſulated, after the deſtruction of the ſtrata from whence they were ſeparated; and in ſuch a caſe, an eye well experienced in obſervation is requiſite to diſcover at firſt ſight from whence they came. In paſt ages men availed themſelves of the vacuities left in the rock AAA for habitations, ſhutting up the ingreſs by coarſe walls. Of this kind of habitations are thoſe marked BB.

The whole body of the hill, which ſerves for a baſe to the marble ſummit juſt deſcribed, all along, till it reaches the ſea, is of a ſubſtance very different from the common Dalmatian and Iſtrian marble; it reſembles the argillaceous earth of the internal part of the hills, which overlook the ſea coaſt of the *Caſtelli* of Trau. The ſame ſubſtance prevails, under the marble ſtrata, all the way from Zara to the fortreſs of Duare; that is, for a tract of a hundred and fifteen miles, in a right line, expoſing itſelf to view in various places, towards the ſea, and ſometimes for a conſiderable ſpace, wherever the interior parts of the hills are diſcovered. Thus, certainly, any man would be very much deceived, who believed, that "Iſtria, Morlacchia, Dalmatia, "Albania, and ſome other bordering countries within land, as "well as the rocks, iſlands, and bottom of the ſea, are all "formed of one ſole maſs of an opaque, almoſt equally hard, "whitiſh

" whitiſh marble of the ſame grain." * Proceeding forward by water, it is evident that, even along the *Primorie*, the bowels of the mountains appear, in ſome places more, and in others leſs compact; and immenſe ſtrata of marble, very different from the common whitiſh kind, are ſeen; beſides maſſes, and leſs extenſive tracts of ſand ſtone, and of marble eſtimable for the fineneſs of its texture, or variety of colours.

Perhaps the denomination of *ſtrata* is not very well adapted to ſuch vague, and irregular diviſions, as thoſe repreſented in Pl. X. and therefore I will make uſe of another word, that pleaſes me better, although I find the contradictory expreſſion of *perpendicular ſtrata*, which carries a manifeſt implication along with it, conſecrated by the principal oryctological writers. The term of *veins* ſeems to me the proper appellation in the preſent caſe.

Notwithſtanding the baſe of the ſtrata, or inferior diviſions repreſented in this plate, is conſtantly of argillaceous earth, yet the modifications ſuddenly differ ſo much, that they deſerve a particular and minute examination. The inclined vein CC is of lenticular grey ſtone or marble, of a fine grain, divided into pieces, which take as good a poliſh as any other calcareous marble. In fact, the ſubſtance of this ſtone is perfectly calcareous, being entirely compoſed of marine foſſil bodies. The diviſions DDDD are veins of a grey ferruginous matter, reſembling the whetſtone, without appearance of marine bodies. If a piece of theſe veins, the continuity of which is divided into ſmall ſhreds, be taken from its natural poſition, and examined, lying

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* *Saggio di ſtoria naturale dell' Adriatico*. p. viii.

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horizontally, the courſe, which the waters once took acroſs that maſs, may be clearly diſtinguiſhed, as well as the ochreous particles which they depoſed, by little and little, in the interſtices, till filled up. The work of theſe ferruginous waters reſembles a good deal the reticulated work of the ancients, only it has not the ſame ſolidity, as it is eaſily diſjoined, yielding to any moderate force, ſometimes to the action of rain water, and to the ſea water daſhing upon it. (Pl. X. fig. A.) The ſpace EE cannot properly be called lapideous; it conſiſts of a whitiſh hard clay, inclining to blue, and without mixture of ſand; it breaks in ſmall pieces, of a ſmooth ſuperficies, ſtreaked with *Fluores Pyriticoſi Dendromorphitici*. It ſhould ſeem, that all, or the greateſt part of the water impregnated with ferreous ochreous particles, and the ſparry atoms which it muſt have imbibed by ſoaking the clay juſt mentioned, had taken its courſe, and that ſomewhat rapidly over the irregular way FF, the ſubſtance of which is become like to that of the vein CC. Several incruſtations of white ſpar, longitudinally ſtriated, and ſemi-diaphanous, which, penetrating downwards, divide the ſmaller veins of the reticulated work, manifeſtly prove the direction of the water, ſometimes ſaturated with tartarous, and ſometimes with ochreous particles. The ſea beats furiouſly againſt the roots of mount Marian, which, being ill calculated for reſiſtance, are conſumed daily. It produces the ſame effect on the irregular maſſes of lenticular ſtone HHH, and makes cavities in them of an oval or round form. It ſeemed to me, that the ſalt, introduced together with the ſea water, under the porous ſuperficies of this kind of ſtone, when, in calms, and at low water, it comes to diſentangle itſelf by the action of the air, and of the ſun, raiſes, by little and little, ſmall ſcales, and diſſolves them into ſand. This lenticular ſand is found depoſited in the lower part of every

cavity

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cavity of the rock, and I did not fail to take a ſpecimen of it. It is remarkable, that this kind of petrifaction is met with ſo frequently in the mountains, that great tracts of them may be ſaid to be compoſed of it, and that the original is hitherto not to be found in the ſeas. Pliny makes mention of a lenticular ſand, amply extended about the famous pyramids of Memphis, and adds, that ſand of the ſame quality is found over the greateſt part of Africa.* Hence it ſeems certain, that ſome ſpecies of ſea inhabitants are loſt, or that the earth has undergone ſtrange revolutions, whereby ſome of its parts are now no more under the ſame climates that they were in more diſtant times. Beſides theſe ſmall *lenticulares*, mount Marian affords no other petrifaction, only ſome rare ſpecimens of the white flattiſh ſpiral *Helmintholithus*, with a prominent beak, called by Geſner *Cornu Ammonis candidum, minimum*, &c.

The repeated occaſions that I had of paſſing the promontory of Marian by water, enabled me to obſerve, with exactneſs, the nature of its different ſtrata, and, in ſome meaſure, to account for the uncommon aſpect, which they diſcover, in ſeveral places. A ſhort mile diſtant from the ſmall creek above deſcribed, the rocky ſhore is raiſed perpendicularly above twenty-five feet about the ſurface of the ſea, and runs under water in the ſame direction. The ſand ſtone of a yellowiſh aſh colour compoſes theſe ſtrata, which are diſpoſed horizontally, though, at a diſtance they ſeem perpendicular, and even, when near, might deceive one who had not long practice, and the moſt ſcrupulous attention to oryctological obſervations. I have frequently heard of perpendicular ſtrata of marine formation, and have

* *Harena late fuſa circum (Pyramides memphiticas) lentis ſimilitudine qualis in majori parte Aphricæ.* Plin. Hiſt. Nat. L. 36. c. 12.

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have read the deſcriptions in more than one book of natural hiſtory; but hitherto I have never ſeen ſuch ſtrata in any place, which, when well examined, and near the eye, have not made me diffident of their apparent perpendicularity. I do not think, that a peice of a mountain overturned ought to ſerve for an example, that being purely an accidental caſe; ſuch as the ſtoney hill of *Salarola*, in the diſtrict of *Calaone*, among our Paduan hills. The line of horizontal diviſion of theſe ſtrata, near the port of Spalatro, is almoſt imperceptible, if beheld at a diſtance; and ſo much the leſs obſervable it is at firſt ſight, becauſe, either through the unevenneſs or disjunction of the inferior ſtrata, or through the filtration of ancient waters, the ſhore is cut from top to bottom, by large perpendicular clefts, which give it the appearance of an aggregate of pilaſters. The eroſion of the ſea water divides the ſurface of that ſand ſtone into rhomboidal curvilinear pores, like thoſe in the veins DDDD, Pl. X. and its origin is the ſame as theirs. The only remarkable difference, which I obſerved, is, that the channels, or pores, in the ſand ſtone, which ſurround the rhomboidal diviſions, are concave, whereas in the veins DDDD they are prominent.

The different poſition, or rather ſections of the veins, which otherwiſe are of the ſame nature, produces this different phenomenon. Thoſe of Pl. X. receive the force of the waves in front, and thoſe nearer Spalatro receive it on a large extent of flank expoſed to the ſea. The country houſe of Count Capogroſſo, pleaſantly ſituated on the height of the coaſt, is the confine of this combination which is interrupted by another creek, whoſe chord is about two hundred and fifty feet. The curve of this creek is formed by irregular ſtrata of ſandy clay, of a blue and yellowiſh colour, ſemi petrified, and divided in ſeveral places by

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by horizontal *faſciæ* of ſtone, which yields to the action of the air, and ſea, ſplitting into pieces of nearly a cubical form. The further extremity of the ſmall creek is of hard ſand ſtone, and forms a little promontory, behind which there is another creek, bounded by a point almoſt entirely marble. This alteration of clay, ſometimes more, ſometimes leſs ſtoney in the ſinuoſities, and of hard rock in the promontories, which conſtantly goes on almoſt to the mouth of the river Narenta, the marble rocks, that in many places appear above water, or are ſeen very little under the ordinary level of the ſea, and the ſtoney iſlands ſtretched along the continent of Dalmatia, to the right and left of the promontory of Diomede, retain ſuch ſtrong veſtiges of ancient continuity, that an obſerver cannot help ſuffering his thoughts to purſue conjectures, concerning the revolutions which our globe has undergone, and on the different appearances which its parts muſt have made in remote times.

In the waters that bathe this tract of ſhore, and receive the ſmall river Salona, there ought to be *Pettini*, as large and of as exquiſite taſte, as thoſe of *Metellino*, celebrated at the tables of the ancients. Oribaſius makes particular mention of them, and adds, that, in the ſea of Dalmatia, the moſt precious *oreccchie marine (Haliotes)* a known ſpecies of the *Lepas*, are found; and he ſays their ſauce is made of Cyrenian liquor, vinegar, and rue.

Of the PORT, CITY, *and* LITERARY HISTORY *of* SPALATRO.

On the ſhore of the port of Spalatro, to the right of the city, lie the numerous habitations, and well cultivated fields of the ſuburbs. Among theſe, particular mention is due to the poſſeſſion allotted for the experiments and meetings of the ſociety of

of agriculture, begun with laudable example, and carried on at the proper expence of a good number of gentlemen, and citizens. It is to be wiſhed, that ſo noble and uſeful an inſtitution may not be unſeaſonably diſſolved. The province has but too much need of aſſiſtance from the ſtudy of huſbandry; as not only the culture of the lands, but alſo the management of the cattle is exceſſively ill underſtood, both by the Morlacchi, and the littoral peaſants.

At the foot of the walls of Spalatro, from the chinks of certain maſſes of hard ſtone full of *enchinites*, and *numiſmales*, which ſometimes are divided horizontally, there iſſues ſeveral little ſtreams of ſulphureous water, which often exhale, towards the evening, a very diſagreeable ſmell. They bring along with them, in large quantities, very white broken filaments of liver of ſulphur. The ſtones, among which theſe ſtreams run into the ſea, are all, a few feet diſtant from the ſpring, coloured with a ſilver white, exactly like thoſe in Italy, among which the ſulphureous hot ſtreams of *Sermoneta* run, till they loſe themſelves in the *Paludi Pontine*. But thoſe at Spalatro have irregularities and changes, that deſerve much attention.

Sig. Giulio Bajamonti, a learned and diligent inveſtigator of natural wonders, aſſured me, that ſometimes theſe ſtreams are loaded with common ſalt; another day they are found to be yellow and ſulphureous, then white and calcareous; neither do theſe variations ſeem to have any relation to the changes of weather, or of the ſeaſons. Dr. Urbani, a learned phyſician of Spalatro, and a Friend whom I eſteem, has uſed theſe waters, with good ſucceſs, in ſeveral diſtempers, eſpecially chronical. From both theſe Friends I expect further obſervations, which,

I am

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I am perſuaded, will be worthy of their learning, and reputation.

The port of Spalatro is frequented by foreign veſſels, which come there to load merchandize imported from Boſſina, ſuch as iron, hides, worked copper, wool, blankets, bees-wax, orpiment, cotton, ſilk, corn, &c.

All along the ſhore, the uſual variety is obſervable of clay mixed, ſometimes with ſand, and calcareous earth, and divided in various ways, by *lamina* of ſtriated white ſpar. In the blue ſemipetrified earth I have never ſeen the traces of marine bodies, though ſome ſpecimens are found in the gray and laminated. In ſome places, and particularly behind the houſes in the ſuburbs, there is a tartarous horizontal-inclined cruſt, of little thickneſs, which runs a few inches under the corn fields, where many fragments of land *teſtacei* are ſeen. This cannot poſſibly be confounded with the ſtrata produced by the ſea; ſince it appears manifeſtly to have been formed by the filtration of eventual waters, and the depoſition of their tophaceous parts. I will not pretend to mention the great Roman remains for which this noble city is chiefly known, and celebrated. The lovers of architecture, and antiquity, are ſufficiently informed thereof, by the work of Mr. Adams, who has done full juſtice to theſe ſuperb veſtiges, by his elegant drawings and engravings. In general, however, the coarſeneſs of the work, and the bad taſte of the age are equal to the magnificence of the buildings. For all this, I do mean to detract from the merit of the auguſt remains of Diocleſian's palace; I count them among the moſt reſpectable monuments of antiquity now extant: yet I would not have ſculptors and architects come to ſtudy at Spalatro, rather

than among the ruins of Rome, or the beautiful veſtiges of ancient grandeur at *Pola*.

The politeneſs of the modern inhabitants does much more honour to Spalatro than the magnificent ruins of ancient fabrics. I was, both alone, and in company with our noble Friend, my Lord Harvey, treated there with the greateſt degree of hoſpitality.

The reverend canons did us the favour to let us ſee ſome MSS. in their capitular archieves, from whence might be extracted, without much fatigue, many informations relative to the hiſtory of Illyrium; for there are writings of *Lucio* and *Beni*, of their adverſaries, and many other learned Dalmatians.

Among theſe manuſcripts we find a copy of the evangeliſts, of the ſeventh, perhaps of the ſixth century, ſufficiently well preſerved. In the firſt page is the beginning of the goſpel of St. John in Greek, wrote in Latin characters; but the copieſt tranſcribed only two pages in this manner, and began again in latin, uſing the *vulgate* for original.

This city has produced, in all times, men diſtinguiſhed in letters and ſciences. Without mentioning the chronicle writers of the barbarous ages, who, however preſerved many precious records, as *Tommaſo* the archdeacon, Michele of Spalatro, and others, it boaſts, in the beſt times of reſtored learning, Marco Marulo, of whom many works are both printed and in manuſcript. I have actually in my poſſeſſion a ſmall MS. of inſcriptions illuſtrated by him; but its authenticity cannot be entirely depended on; in our days more dexterous inventions

of

of that nature could be made. Among the archbiſhops, who held that ſee, the firſt place for learning, is due to *Marc Antonio de Dominis*, a native of the city of Arbe, whoſe memory would have been much more illuſtrious, if he had contented himſelf with being diſtinguiſhed in phyſicks and mathematicks, and had not choſen to write too much, and to ſingularize himſelf in religious matters alſo. His treatiſe *de 'raggi viſuali, e della luce ne 'vetri da oſſervazione, e dell iride*, and his other, publiſhed with the title of *Euripo, o ſia del fluſſo, erriſluſſo delmare*, deſerve the more attention, as they preceded, by much, the celebrated philoſophers of our age, who have deſervedly gained the higheſt reputation, by explaining thoſe very doctrines, which the learned prelate had taught. The great Newton did juſtice to *de Dominis*, from whoſe ſmall work he drew his firſt theory of light. I have ſeen, and one day perhaps may publiſh, ſome things in manuſcript, which ſerve greatly to illuſtrate his talents. Monſ. Coſmi, who held the archiepiſcopal ſeat many years after *de Dominis*, left a remarkable writing, *ſopra la Bolla Clementina*, which ſhould be among the MSS. of the late ſignor *Apoſtolo Zeno*, in the library of the fathers of the *Zattere* at Venice.

Between Spalatro and the river Hyader, at the foot of mount Marian, there are beautiful and pleaſant fields; but the earth is ſhallow, and thence ſubject to drought; though it ſhould ſeem no very difficult matter to water it, by means of the neighbouring river. The maſſes at the foot of the hill, and in the contiguous plain, are of lenticular ſtone, quite ſimilar in ſubſtance, to that which forms the little promontory H H in Pl. X. but it is much harder, and alſo contains lenticular flints.

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Ruins of SALONA.

In going to viſit the miſerable remains of Salona, one muſt paſs the river two miles to the north of Spalatro, on a bad bridge, very different from that which the Romans (it may be ſuppoſed) built there. The Hyader iſſues from the foot of the mountain of Cliſſa quite formed, and needs no adventitious acceſſions to run into the ſea with ſome dignity. Near its ſource are found foſſile bones, in the uſual hard ſubſtance, conſiſting of marble ſplinters, and red iron ſtoney earth, of which ſome ſpecimens are preſerved, in the archiepiſcopal palace, by Monſ. Garagnini, a pious and hoſpitable prelate, and a father of the poor. He has alſo been of ſervice to natural hiſtory, by his kind reception of my Friend Profeſſor Martin Brunnich of Copenhagen, who in teſtimony of his gratitude, dedicated to him a treatiſe on the fiſhes of the Adriatick.* The city of Salona, which was ſo great, both before and after it was ſubjected to the Roman yoke, is now a wretched village, preſerving few diſtinguiſhable remains of its ancient ſplendor. Doubtleſs, the two laſt ages have deſtroyed all that had eſcaped the barbarity of the northern nations, that demoliſhed it. I find in a valuable MS relation of Dalmatia, written by the ſenator Giambattiſta Guiſtiniani, about the middle of the 16th century, a hint of what exiſted at that time.

"The nobility, grandeur, and magnificence of the city of "Salona, may be imagined, from the vaults and arches of the "wonderful theatre, which are ſeen at this day; from the vaſt "ſtones

* Mart. Th. Brunnichii *Ichthiologia Maſſilienſis*, & ſpec. Jehth. Hadr. &c. Hafniæ & Lipſiæ, 1769. in 8vo.

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"ſtones of the fineſt marble, which lies ſcattered on, and buried
"in the fields; from the beautiful column of three pieces of
"marble, which is ſtill ſtanding in the place where they ſay
"the arſenal was, towards the ſea ſhore; and from the many
"arches of ſurpriſing beauty, ſupported by very high marble
"columns; the height of the arches is a ſtone throw, and above
"them there was an aqueduct, which reached from Salona to
"Spalatro——There are to be ſeen many ruins and veſtiges of
"large palaces, and many ancient epitaphs may be read, on fine
"marble ſtones; but the earth, which is increaſed, has buried
"the moſt ancient ſtones, and the moſt valuable things."

The inhabitants of the village, that aroſe from the ruins of Salona, too frequently dig up inſcriptions, and other works of ancient artiſts; but their greedineſs is ſo proportioned to their barbariſm, that they rather chuſe to break and ſpoil every thing, than to ſell it at a reaſonable price. I endeavoured to ſave ſome fine *lapides* newly diſcovered, from the brutal hands of a peaſant, who had already ſpoiled many others, of which we ſaw the fragments, to make door and window caſes for his cottage; but his avidity prevented my deſigns at that time, and I was obliged to content myſelf with copying them.

A curious citizen of Spalatro has collected a great number of Salonitan inſcriptions not publiſhed, but I could not obtain them from him. He intended them for the illuſtrator of thoſe, which, for the moſt part, are found deformed in Vol. II. of the *Illirico ſacro*; and I dare not complain that ſo celebrated a man was preferred to me, becauſe I have no thoughts of engaging myſelf to explain them diffuſely, as ſuch an undertaking would carry me too far from my principal object.

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object. I would have, perhaps, neglected ancient remains altogether, if the reſpectable example of M. de Tournefort had not encouraged me occaſionally to take notice of them. Having obſerved how eaſily and frequently they are miſtaken, who write, and ſet themſelves up for illuſtrators of antiquity, without having made long and regular reſearches, I have taken the reſolution to put all my gleanings into the hands of my learned Friend Count Abbe' Girolamo Silveſtri of Rovigo, and ſhall continue to do ſo with whatever may fall into my hands in future tours, relative to antiquity. The danger of deſtruction daily threatens every thing of this nature ſcattered over Dalmatia; and even for this lamentable reaſon, I thought it my duty to ſay thus much. You, far from condemning me, will certainly approve of my diligence, which, at leaſt, will mix a little not diſagreeable variety with the tireſome dryneſs of foſſil matters.

If the mournful ruins of Salona were not ſufficient of themſelves, to determine the preciſe ſituation, where it lay, on the banks of the ſea, this would be very clearly indicated by Lucan.

Qua maris Adriaci longas ferit unda Salonas,
Et tepidum in molles zephyros excurrit Hyader.

The text of Cæſar, where he places Salona *in edito colle*, muſt be corrupted, for it cannot be imagined that he was ignorant of the true ſituation of thoſe places.

This ſmall river, that does not run above three miles, obſtructed, here and there, by tophaceous banks, nouriſhes in its moſſy grots, an exquiſite ſpecies of trout. Hence ſome author, who

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who muſt have been a much better judge of good eating, than of the actions of great men, took occaſion to write, that Diocleſian (acting worſe than Eſau) renounced the pleaſure of commanding almoſt all the then known earth, to eat quietly his bellyfull of theſe fiſhes, in his magnificent retirement at Spalatro. I know not if Diocleſian was as great a lover of fiſh, as he was of herbs; but believe, that Spalatro, without any motive of gluttony, muſt then have been a delicious habitation; and, to ſtrengthen this belief, I imagine the neighbouring mountain to have been covered with ancient woods, which, in our times, by its horrid bareneſs, reverberates an almoſt unſupportable heat in the ſummer days. It is certain, that a turn for philoſophy, and perhaps, a trait of wiſe policy, was the motive of Diocleſian's retirement. He lived ten years in tranquillity at Spalatro, and perhaps would have enjoyed a longer life, if the letters of *Conſtantinus* and Licinius had not come to diſturb him. Notwithſtanding all the ill that the chriſtian authors have written (one copying the other) of this Dalmatine Emperor, perhaps with greater piety than impartiality and truth, it muſt be confeſſed, that he was a man of extraordinary merit. He mounted the throne without any effuſion of civil blood, led to it by his own virtues; and after a reign of twenty years, gave perhaps the greateſt example of philoſophical moderation, that ever was heard of in the world. I reckon it a ſingular honour to Diocleſian, his having been praiſed by Julian, among the Cæſars, as he certainly would not have ſpared him, if he could have ſaid any thing to his prejudice.

Of the Mountain of CLISSA *and of* MOSSOR.

To the right of the Hyader riſes the mountain, which commonly bears the name of Cliſſa, from the fort that ſtands on one of its

its ſides. The ſubſtance of this mountain, ſometimes grey, ſometimes bluiſh, of unequal hardneſs, as well as the nature of its ſtrata, is the ſame as thoſe already deſcribed in this letter. The maſſes fallen from the top, which are met with on the road, are ſometimes of common Dalmatian marble, ſometimes of very hard gravelly *breccia*, and ſometimes of hard lenticular ſtone.

It is very curious to obſerve ſome ſtrata, which compoſe a prominent ſide of mount Moſſor, flanking the road of Cliſſa, to the left of the deep valley, through which the Hyader runs. They preſent, to the eye of an obſerver at a diſtance, many diviſions, that deſcribe ſegments of a circle, placed one above the other, with the extremities turned downwards, diameterically oppoſite to what is commonly obſerved in the diſpoſition of curve ſtrata. Whoever might pretend to judge of this at a diſtance, would act imprudently, and run the riſque of giving ſome ridiculous explanation; as is too often the caſe with even the greateſt naturaliſts, when they undertake to unfold ſome ſtrange phenomenon, upon a ſuperficial inſpection, or according to the accounts of others: like that good man who wrote the natural hiſtory of the Swiſs Alps, without ever travelling to obſerve them. The erection of the extremities of the ſtrata of Moſſor is a deception of the eye, by the diſtance and inferiority of the ſituation, on which the obſerver ſtands. The firſt time I paſſed, I believed this to be one of thoſe unaccountable phenomena, whereof the ancient ſea left impreſſions within the bowels of the mountains, and which time and torrents ſometimes diſcover, to torment the brain of naturaliſts. But the diſtant aſpect had deceived me. The apparent extremities of the ſemicircles are not ſo in fact, but only points of the circumference of theſe diſcovered

covered ſtrata, which are inſulated by the eventual waters, and from the top to the bottom of the accidental hill, or prominence, are laid horizontally one above the other. The inſulated rock, on which Cliſſa ſtands, is, for the moſt part, of marble *breccia*, of ſubmarine origin, ſince little marine inſulated bodies are found among the ſmall ſtones. The ſmall ſtones themſelves, that form the *breccia*, contain *lenticulares* of much anterior date to the ſtoney ſubſtance in which they now are. The baſe of the rock is of whetſtone, like that on the ſea coaſt of Spalatro already deſcribed, between which, and the marble, there runs an irregular vein of calcareous hard ſtone full of calcinated *Teſtacei*, and frequently pieces of bituminous petrified earth.

In the *breccia* are ſeen ſome little black ſtones, productions of diſtant and ancient volcanos. On re-examining the prominence of this hill, from a ſituation of equal height, I ſaw that it had been divided in part from the reſt of the mountain, and that its ſtrata correſpond, both in direction and ſubſtance, to thoſe of the mountain. The arcuated ſtrata continue to deceive the eye, till the obſerver comes within reach of ſeeing them horizontally; then the illuſion vaniſhes.

The fort of Cliſſa is undoubtedly the Ανδηριον of Dion Caſſius, and the *Mandetrium* of Pliny. The firſt of theſe ancient writers deſcribing the ſiege and attack under the command of Tiberius, circumſtantiates its ſituation minutely, ſaying, " that there was no plain of any kind near it, that the hill was inacceſſible, ſteep, " and interſected by cliffs." He adds, that " Tiberius, find- " ing the reinforcements that repeatedly came up from the " camp at Salona to ſuſtain the Romans, unſucceſsful, detached " a body of troops, through craggy paths, to gain the heights

 which

" which commanded *Anderion*, whereby the Illyrians, being ex-
" poſed on both ſides, the fort was obliged to capitulate."* Cliſſa is now in fact at no great diſtance above Salona; built on an inacceſſible rock, ſurrounded by cliffs, and hollows, and commanded by the top of the mountain. Pliny ſpeaks of *Mandetrium* as a place famous for deeds of arms. Cliſſa has been too much ſo, even in the times near to us, and would be ſo again, if the ſcourge of war was felt in Dalmatia, on account of its ſituation on a narrow and important paſs.

Spon, in his voyages, tranſcribes an inſcription ſeen by him at Trau, in which mention is made of repairs done to the road, between Salona and Andetrium.

Of the Country inhabited by the MORLACCHI, *between* CLISSA *and* SEIGN. *The valley of* LUZZANE——*and concerning* GIPALOVO VRILO.

Paſſing beyond Cliſſa, ten or twelve miles within the province, we traverſed a country ſometimes high, ſometimes low, but almoſt always equally rough, and thinly inhabited. The crags of *Clapaviza*, the deſcent of *Cozigne Berdo*, the ſtoney valley *Dracaniza*, uncultivable, though plain, and the mountain of *Cirſiza*, are tracts of horrid deſert capable of cooling the moſt fervid travelling naturaliſt. All the the deſcent is of marble, dangerous for horſes, as they can hardly walk on it; and the whole valley is diſaſtrous, on account of the many ſharp rocks, which form the pavement. A few tufts of ill grown trees, and many thorns, from which it takes the name of *Dracaniza*,† produce

* Dion Caſs. Lib. 55.

† *Draca* a *thorn*, and particularly the *Paliurus*.

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duce a worſe effect, than its native rugged barrenneſs would do, becauſe they interrupt, and render ſtill more incommodious the unpleaſing road.

At the foot of the mountain of *Criſiza* lies the beautiful valley of *Dizmo*, which affords good paſture, and the ſoil is not unfertile; it has about ten miles of circuit, altogether ſurrounded by hills. It is not cultivated, though it might eaſily be ſo; but the Morlacchi are very far from underſtanding good agriculture, and indeed they know little of any kind of it. From *Dizmo*, by *Xenſki Klanaz*, then over mount *Mojanka*, and at laſt by *Cucuza Klanaz*, we deſcended into the large fine plain of *Seign*, which is watered by the *Titurus*, now called *Cettina*; a tract of country of which I ſhall have occaſion to ſpeak again, when I give an account of the head, courſe, and mouth of this river, from which, in former times, the diſtrict of Cettina took its name.

It is no rare thing, in the interior part of the country inhabited by the Morlacchi, to find hills, lakes, and territories, which preſerve, in their name, the memory of ſome ſignal action. Of this number is the road called *Xenſki Klanaz*,* and the mountain Mojanka. There is a ſong, traditionally preſerved among the Morlacchi of thoſe parts, that relates the doleful caſe of one, whoſe miſtreſs was carried away by force, and was called *Anka*. He ſought her over all the mountains in the night time, calling aloud *Moja Anka*, i. e. my Anka, whence the mountain took the name it ſtill bears; and ſeveral places, in that neighbourhood, have names relative to different circumſtances of the ſtory.

* *Xenſki Klanaz*, that is, *the narrow paſs of the woman.*

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After a day's journey through that frightful ill inhabited country, we arrived at *Seign*, a fort ſituated near the river *Cettina*, which I ſhall mention more particularly in another place.

A traveller unwilling to paſs the ſame way, on returning from *Seign*, to *Spalatro*, may take the road of *Radoſſich*, which lies ſomewhat more towards the north than Mojanka; but before he proceeds directly on that road, a naturaliſt will certainly turn a little out of his way, in order to ſee the valley of *Luzzane*, and the den or torrent called *Gipalovo Vrilo*. In theſe places, ſeparated from the ſea by a vaſt chain of mountains, at leaſt ſixteen miles broad, are found the moſt diſtinct proofs of the ancient ſeat of ſea waters; and, perhaps, no leſs indiſputable proofs of the habitations of men, upon the ſtrata, which now form the internal ſtrata of the mountains. The valley of *Luzzane* is flanked by low hills called *Glavize* in Illyrian. Theſe lie at the roots of a high ſtoney mountain, and are formed of barren marine earth, ſometimes of a whitiſh, and ſometimes of a blueiſh colour, diſpoſed in very regular ſtrata, full of foſſil turbinated ſhells, and, in ſome places, of white, ſhining, ſemi-calcined, exotic Bivalves. On the ſuperficies of a ſtone, not above four inches ſquare, I counted above forty of the ſame ſpecies and ſize. All the ſtrata, however, have not an equal abundance, nor are they all of the ſame conſiſtance and colour. In ſome of them are found foſſil veſtiges of the *Alga marina*; and ſome little bits of the coal of burnt plants. But the moſt remarkable difference, that is obſerved in this marine earth, is the very great inequality of weight. For of two pieces of equal bulk, taken from two different ſtrata, and full of marine bodies, that which contains the bits or ſtraws of coal, weighs only half the other, and reſembles the cineritious pumices of Volcanos,

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canos, though is does not ſhew the ſame exterior poroſity.

Theſe little coaly or burnt ſtraws are not at all impregnated with ſulphur; are eaſily pulveriſed, and tinge with black, like any other burnt ſtraw. I remember to have obſerved ſimilar bits of coal, in a bolar green ferruginous earth, found in the vulcanic matter of *Monte Berico* near Vuenza. The ſtrata of the hills of *Luzzane* are of a middling hardneſs, and ſo well divided by horizontal inclined lines, that large flat plates like thoſe of *Ardeſia*, or *Lavagna*, might be taken from thence. The little channels, cut by the rain water, on the back of theſe hills, in deſcending into the valley, diſcover the internal texture, and the diſpoſition and colour of the ſtrata.

Half a mile further on, towards the narrow part of the valley, one meets the bed of the torrent called *Gipalovo Vrilo*, or the ſtream of the family of *Gipal*. This carries along with it a very great variety of matter. Among its gravel there are *Pyrites*, and *Etites*, in which the marine bodies remain white, reſiſting the diſſolved iron. There are great quantities of black flints, and of all other colours; pieces of very fine Agate full of marine bodies; large pieces of whetſtone, *breccia*, and various kinds of ſimple calcareous marble, brought down from the mountains. Beſides all theſe productions of mineral and marine mountains, there are vaſt numbers of compact heavy pieces of *Lava*, ſometimes black, ſometimes grey, foſſil coal, and bituminous ſciſſile earth, black as the *Gagates*, and full of very white marine bodies. Various horizontal inclined veins of this earth appear along the bed of the torrent, having, both above and under them, other ſtrata of marine earth, not very compact, but commonly full of *Teſtacei*. Further on, the bed, which becomes narrower,

narrower, is, in ſeveral places, totally excavated in the bituminous earth; but generally the veins are alternate. As, above the little hills of the valley of *Luzzane*, a ſtoney hill ariſes, ſo, above the ſtrata divided by *Gipalovo Vrilo*, a larger hill is raiſed, compoſed of the various matter that the torrent brings down, when very full. Upon the utmoſt border of the ampelite earth, which ceaſes to diſcover itſelf below a fall of the torrent, where various ferruginous maſſes have tumbled from above, are found the roots and trunk of a tree three feet in circumference reduced to a foſſil coal. When I was there, it ſtood in its natural poſition, and, from the foot of the trunk, I could obſerve the roots ſpread, perfectly entire even to the ſmalleſt parts. Some of thoſe which I brought away with me, reſemble the *ſiliquæ* of *Carrubbio* in figure; but are entirely of the nature of coal, and of a very ſhining black colour.

The particularity that diſtinguiſhes this coal trunk, from the great quantity of other foſſil wood found in the mountains, is, its having been cut, little more than a foot above the roots, by a hatchet, or ſome other ſimilar inſtument, before the marine ſtrata covered it. The repeated examination of its ſituation, and of its actual ſtate, leaves no room to doubt of this ancient truth.

The veins of marine earth ſeparated by the torrent, run regularly about five feet higher than the ſituation occupied by the roots and foot of this trunk. There are rents in the root of it, through which the bitumen has inſinuated itſelf. It was alſo almoſt buried under ground, when I, with my own hands, taking away the earth, ſet it in open view, induced by the ſuſpicion, which the natural ſituation of the roots raiſed in me. I leave to thoſe, who are more knowing than myſelf, to decide by how ancient a hatchet this tree has been cut, and in what times thoſe lands have been covered by the waters of a ſea now far from us, and which

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which has left behind it ſuch a prodigious quantity of exotic *Teſtacei*.

The foſſil coal, and the ampelitic earth of *Gipalovo Vrilo*, though at ſeveral miles diſtance from the ſea, might be made uſeful articles, were it only for the diſtillation of ſpirits, in which the woods on the ſea-coaſt are fatally waſted.

Concerning the Mountain SUTINA, *and the adjacent places.*

Entering again into the road that leads to Spalatro, we turned a little to the north, that we might not return by the ſame way by which we came. About *Radoſſich* are ſeen the ruins of mountains overwhelmed, and large maſſes of marble, inſulated, out of their natural ſituation. They ſtand on ſtrata of marine earth; but it is not eaſy to gueſs, whether they fell, when the waters covered theſe places, or were overturned by an earthquake, after their receſſion. There is a great variety of marine bodies among thoſe ruins; and, along the roots of the mountain of *Sutina*, in the deep bed of the torrent, which goes on wearing the foot of the mountain, the minute *breccia* maculated with black, is common; and the ſpotted, the brown, the white and black, and the peach-coloured, are not rare. This mountain, whoſe top is of *breccia* compoſed of fluitated gravel, has its middle compoſed of a calcareous and micaceous ſtate, of different hardneſs and degrees, of a reddiſh colour, more ſuitable to mineral than calcareous mountains. In one ſtratum of this ſtate, which ſplits into very thin *laminæ*, uncommonly brittle, I ſaw the impreſſions of *Tellinæ*. Having paſſed this mountain, we came to *Hamuch*, or upper *Mutch*, a ſmall hamlet built on the porous *breccia*, which is not fit for noble works. I ſaw there, in heaps, many plates of marble, or ſlatey calcareous ſtone, brought from I know

know not what part of the mountains. In ſome of theſe are confined and petrified the ſhells of *Vermiculi*, and branches of *Madreporæ*; others are a compoſition of *Tellinites* and *Anomitæ*, deeply ſtriated, like thoſe which are frequently found petrified in the Veroneſe hills.* A piece of this ſlatey marble, which I brought away, being poliſhed, became variegated, ſcattered with white ſtars on a dark ground, which are nothing elſe but the horizontal ſections of ſmall columner angular *Aſteriæ*. † On one ſide of this marble in its natural ſtate the foſſil ſhells appear prone, and on the other only their concave impreſſions are ſeen.

Below the hamlet, there is a plain of a moderate extent, which I croſſed over to go to read an inſcription dug up a few months before.

The moſt remarkable thing which I ſaw there, were ſome large maſſes of *breccia*, ſtained with violet and other beautiful colours. Magnificent columns and monuments might be made of this ſtone, if the place were not ſo far from the ſea, and the intermediate roads were not ſo impracticable. An ancient *breccia*, much reſembling this, is ſeen at Rome in ſome of the nobleſt works; and it is known among the artiſts by the name of *breccia corallata*. Who knows, if in paſt ages, a country ſo much inhabited by Roman colonies, and frequented by their armies, had not commodious roads, of which we have now loſt not only the veſtiges, but even the memory?

Our

* *Helmintholithus anomi deperditæ novemſtriatæ.* Linn. Syſt. Nat. iii. p. 163.

† *Helminth. Iſidis Aſteriæ.* Linn.

Aſteria columna angulis obtuſis. Scheuchz.

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Our guides conducted us over the two vallies *Ghiſdovaz* and *Prugovo*, to put us in the road of Cliſſa. The figure of theſe vallies is circular, and they are quite ſurrounded by mountains. It ſhould therefore ſeem, that they ought to have a deep and rich ſoil; but it is far otherwiſe. They are plain, yet the earth is ſo ſhallow and ſo full of ſharp rocks, that they look like the ſummits of ancient and bare hills ſunk for want of foundation. Vallies of this kind are not uncommon in cavernous regions, under which are running rivers; and the waters collected together from a vaſt ſuperficies loſe themſelves. The large valley of *Prugovo* becomes often a deep lake, in time of winter, and dries up by degrees towards the end of ſpring. The river of Salona, which iſſues full formed, from the bottom of the mountain, and that of the mills of Trau, probably owe their original and increaſe to the waters, that fall underground, from this, and other ſimilar vallies.

Of the Ruins of EPETIUM, *and of the Foſſils found in that Neighbourhood.*

Six or ſeven miles to the eaſtward of Spalatro, and three miles from Salona, lie the ruins of the ancient *Epetium*, a colony of the *Iſſei*. The place is now called *Stobrez*. Near the road thither by land from Salona, are ſeveral arches of Dioclefian's aqueduct, vulgarly called *ponte ſecco*, and above it is an inſulated maſs called *Kamen*, i. e. the ſtone, by way of excellence, where in former times, a ſmall fort has ſtood, as may be deduced from the veſtiges of the walls that ſtill remain.

The ſituation of *Epetium* was very beautiful. The city ſtood on the ſea ſide, but on a plain much above the level of the wa-

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ter. The pleaſant little river of *Xernovniza*, * of which I have not hitherto been able to find the name among ancient geographers, falls into the harbour, capable from its extent, of receiving many ſmall veſſels; but in our days, the water is ſhallow, perhaps by the mud and ſtones brought by the river abandoned to itſelf. The adjacent fields, though ill cultivated, are delicious. The Turks had made ſalt pits there; but after the country paſſed from the Ottoman yoke to the Venetian government, they were abandoned. Yet that tract of plain, which was occupied by the ſalt pits, is neither damp nor unwholeſome; and it invites ſome induſtrious and intelligent perſon, to make a trial how valuable the perennial water of the adjoining river, the ſweetneſs of the climate, and the open warmth of the ſhore, might be made.

On the banks of the ſmall harbour of *Stobraz* the veſtiges of the ancient walls of *Epetium* are ſtill diſtinguiſhable; and appear to have been built of ſolid materials, but without that nice connection, that is admired in the Roman fabricks. A ſubterraneous paſſage, of which the mouth remains in its primitive ſtate, extending far under the buried ruins of the city, ſeems to have ſerved in ancient times, for an outlet to the waters. Near the parochial church, which is a good quarter of a mile diſtant from the ſhore, appear the foundations of a tower, which flanked *Epetium* on that ſide; and the church itſelf is built on thoſe old foundations.

I flattered myſelf to find here ſome valuable Greek inſcriptions, and with that view, I ſearched every corner of the village, but all in vain. I ſaw the fragments of ſome Latin inſcriptions of no value; and was obliged to content myſelf with copying the only one

* *Xernovniza* takes its name from *Xarn*, which in Illyric ſignifies a *mill*.

one entire, which I found in the pavement of the church. Very probably the inhabitants may have concealed ſome others, as they are habitually ſuſpicious of ſtrangers, and particularly of Italians; and indeed to tell the truth, they cannot be much blamed.

The river *Xernovniza* has but a ſhort courſe: It takes its riſe from ſmall beginnings, between *Squercich* and *Dubrova*, near the foot of mount Moſſor; has a fall not far from its ſource, then turns ſeveral mills; and after a courſe of five miles, falls into the ſea. Its waters nouriſh variety of fiſh of exquiſite taſte, and thoſe of the ſea alſo love to reſort about its mouth. Hence the inhabitants of *Stobrez* go wading barefooted in the harbour to fiſh, though indeed it ought rather to be called to hunt, as they purſue, ſtrike, and kill their game with iron pointed ſpears. I reſolved to go to the ſmall village of *Xernovniza*, both to examine the courſe of the river, and to ſee ſome inſcriptions, which I was told at *Stobrez* are in the church. The journey was little more than three miles. The firſt hill in my way ſtopt me to obſerve the immenſe quantity of looſe *Nummales*, which cover the ſide of it. I collected a good many, perfectly entire, and of a remarkable ſize. Some of them are compreſſed, and alſo with the ſpiral outwards; and among them may be collected fragments of *Oſtracites*, and roſtrated *Helmintholithi*, like the white *cornu ammonis*, and of the ſame ſpecies that is common enough in the argillaceous earth of *Brendola* and Grancona in the Vicentine hills.

The children of the country render good ſpecimens both of *Nummales* and *Helmintholithi* ſcarce, by gathering them for play. They are perfectly acquainted with the proper time of collecting, and never fail to repair to the places where they are found after

the great rains. Juſt ſo, in the Paduan hills, between the heights of *Venda* and *Rua*, the girls uſe to collect the *Entrochi*, or columner *Aſteriæ*, found there in abundance after a thaw of Snow, in order to throw them unobſerved, into the fire, and to divert themſelves at the ſurpriſe, and ſometimes the fright, which their ſudden crackling like ſea ſalt cauſes in thoſe who are preſent. I went twice up to thoſe heights, on purpoſe to make a collection, but ſoon perceived by the ſcarcity, that many hands had been there before me.

The hill divided by the waters of the *Xernovniza* is of ſand ſtone, of a grey or bluiſh colour, without apparent marks of petrifactions. The left ſide of the river is craggy, horrid and impracticable: the other is cultivated, or at leaſt planted with vines and fig-trees. The inſect enemy of this laſt kind of fruit was, at that time, ſo prodigiouſly propagated, that on one fig, not bigger than a common nut, I counted above ſeventy new galls; and on one leaf alone a hundred and fifty-ſeven: the branches were quite covered with them. Arriving at the hamlet of *Xernovniza*, and clambering up to the Curate's houſe, in the condition of a man who had walked in haſte, under a burning ſun, and at mid-day, over a ſteep and ſtoney road; I deſired my honeſt guide to make my requeſt known to him, not daring to do it myſelf, for fear of offending his ear, by the bad pronunciation of a few Illyric words. But the inhoſpitable and ſuſpicious prieſt refuſed abſolutely to open the church, nor would he yield to all the intreaties that were made him with the greateſt humility imaginable. All his anſwer was *nechiu*, "I will not," to whatever the guide and I could ſay to him. Such brutal behaviour made me loſe all patience; I was no longer aſhamed to

ſpeak

ſpeak Illyric; and on going away I could not help breaking out in all the abuſive terms I knew, againſt that iron hearted man. The good curate let me go on, and peaceably ſhut himſelf up in his cottage. This was the firſt and greateſt, nay almoſt the only inſtance of inhoſpitality that I met with in Dalmatia; but I was very ſenſible of it, and could not help mentioning it particularly.

May Heaven preſerve you, Sir, from ſuch brutiſh, and ſavage treatment, among the mountains which you viſit, and from which, whatever tour you make, you will certainly bring many obſervations and important diſcoveries, which the republick of naturaliſts will always wiſh for with reaſon! For my part, I wait impatiently for your return to Italy, being attached to you not only by the chain of our mutual ſtudies, but alſo by the veneration I have for your ſuperior talents and merit; for which I love and eſteem you above all the naturaliſts I know, not one of whom can equal you in acuteneſs of obſervation, exactneſs in examining, reſolution in determining and perſeverance in proſecuting your phyſical reſearches.

TO

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TO

SIGNIOR MARSILI,

PROFESSOR OF BOTANY IN THE UNIVERSITY OF PADUA, FELLOW OF THE ROYAL SOCIETY, &c.

Concerning the River CETTINA, *the* TILURUS *of the Ancients.*

SUSPEND a while your continual and indefatigable botanical labours, my learned and dear Friend, and travel with me along the unfrequented banks of a river now but little known, though in former times the reſidence of many brave and eminent Romans. I invite you to croſs the rocky mountains, which divide from the ſea, the beautiful interior parts of Dalmatia, at preſent inhabited by the Morlacchi; but your journey will be much leſs fatiguing than mine. You are a lover of every kind of ſcience, and therefore I may flatter myſelf, that you will not read without ſome pleaſure, the various details that occurred to me to the right and left of the Tilurus, from its ſources to its mouth; and that you will not find fault with the few digreſſions, which the anology of matter may occaſion. I have endeavoured not to be tedious, and I hope not unentertaining; but if my endeavours ſhould prove unſucceſsful, you can always when you pleaſe, lay aſide this letter; for I am not ſo unreaſonable as to expect, or wiſh that a man of your univerſal acknowledged merit ſhould loſe his time on diſagreeable or uſeleſs ſub-

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ſubjects. Your hours, I know are precious to the republick of letters, and therefore I do not pretend to engroſs them; a few detatched broken minutes are ſufficient for me.

Of the Sources of the CETTINA.

Contiguous to the hamlet of *Jarebiza*, and three miles diſtant from *Verlika*, at the foot of a hill of marble, are the four principal ſources of the *Tilurus*, called Cettina by the preſent inhabitants; which ſources, after a ſhort courſe, unite together at a place named *Vrilo Cettine*. The territory through which the river runs, had in paſt times the title of county of *Zapania*, and depended on its particular petty prince. But there never was any city there called Cettina, and much leſs is there at preſent, though named by ſeveral geographers, and particularly by M. Buſching, together with the addition of a lake that exiſts not. *Porphyrogenitus* called the *Zapanca* of Cettina *Zentzena*. The firſt time that I ſaw the ſources of this river, in company with the Lord Biſhop of Derry, two of them appeared to me to merit particular attention. The hills that lie between the mountains of *Kozjak* and *Dinara*, and ſurround the fine plains of Cettina, riſing in height as they extend farther back, are united at laſt to mount *Herſovaz*. The exterior appearance in ſeveral places, denoting the irregularity of the ſtrata whereof theſe hills are compoſed, gives ground to ſuſpect that they may have been ruins of ancient mountains; yet I cannot take upon me to aſſert this poſitively, though I obſerved them with attention, but a more particular examination would be neceſſary on the heights.

The

The ſource which we firſt viſited is a hundred paces from the hamlet; and the baſe of the hill forms a ſemicircle about it. The clear ſmall lake that lies there, almoſt hid by the rocks, and ſhade of the trees, is about thirty feet diameter. The inhabitants pretend that its bottom cannot be fathomed; we threw into it many white ſtones of various ſizes, and quickly loſt ſight of them. The water of this lake has ſcarcely any viſible motion; yet, following the declivity, it iſſues with rapidity, and forms a conſiderable ſtream below. A prodigious number of trouts, ſome of which weigh twenty five pounds, iſſue with the water, from the interior parts of the mountain, and many other ſpecies of common river fiſh are alſo ſeen; but the aperture, that ſerves them for a paſſage, is not acceſſible, nor, on looking horizontally, can it be ſeen from without. In order to diſcover it, one muſt ſtand on one of the ſteep extremities of the ſemicircle, and look down. About ſix feet below the ſuperficies of the lake, a ridge of marble appears through the water, in form of a large irregular arch, which juts a good way outward. Under this the water has its vent, and its vertical motion, which on the ſuperficies appears little or nothing, is diſcovered by the inclination that ſtones, thrown into it take in ſinking. The other ſource, not far diſtant from the hamlet, on the oppoſite ſide, is of ſomewhat larger extent, and alſo in the form of a lake girt round, like the other, by the marble ſtrata of the mountain. Its banks are not ſo freſh and ſhady as thoſe of the firſt; they ſay it is exceedingly deep in the middle. A little river is likewiſe formed from this lake after a very ſhort courſe, and which would not be inconſiderable by itſelf, but becomes large when joined with the other, and two more ſtreams, beſides ſeveral leſſer rivulets which run towards the plain from the ſame mountain.

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A SUBTERRANEOUS VOYAGE *attempted.*

The great quantity of water, flowing from the lakes, and other leſs conſiderable ſources, concurs to form the river Cettina; its iſſuing from a mountain much ſmaller than thoſe that uſe to give origin to noble rivers, and recollecting the marble *breccia* of which the tops of the Illyrian mountains are compoſed, made us ſtrongly ſuſpect, that the waters which we beheld were not the true ſources of the Cettina, but only branches of ſome ſubterraneous river, whoſe ancient bed, perhaps, in very remote ages, were the high continued plains, which, after a long ſeries of violent changes, became the tops of mountains. My Lord Biſhop, having lately viſited the Belluneſe territory, and particularly thoſe places where the fall of mountains frequently interrupted the courſe of rivers, remarked the hanging veſtiges of ſimilar ruins on the ſides of *Kozjak*, *Guat*, and *Dinare*, which plainly ſhew, that the interruption of their ſtrata has proceeded from ſome vaſt ſudden ſinking, or perhaps from a ſucceſſion of them. This reaſonable and well grounded conjecture, made us determine to penetrate, as far as we could, into the caverns which wind through the internal parts of the mountain between the two lakes juſt deſcribed. Some of theſe caverns, notwithſtanding their ruggedneſs and obſcurity, were, in other times, frequented by a Banditti, perhaps as fierce as wild beaſts; and there are ſtill to be ſeen the veſtiges of a wall coarſely built to render the entrance more narrow and ſecure. It required ſavages indeed, hardened to a great degree, to clamber into theſe horrid receſſes; yet, notwithſtanding the difficulty, I forced myſelf into them more than once, that I might examine, at my leiſure, though not at my eaſe, the ſtructure of theſe marble mountains. Many of theſe narrow chaſms and holes run between

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tween the pieces of ſubverted ſtrata, where one muſt aſcend creeping on hands and feet, without being able to raiſe the head for a long ſpace. In one of theſe holes, near the outer aperture, the ſurface of the inferior, as well as the ſuperior maſs, which ſerves for a vault to the narrow paſſage, is all ſcattered with hard and ſharp pointed *ſtalactites*; and farther up, the marble is become ſo ſmooth and ſlippery, by the frequent treading of ancient thieves, or ſavages, that I could not go on without the greateſt fatigue. Having paſſed theſe ſtraits, I got into places leſs impracticable, though always equally frightful, and rendered ſtill more dreary and uncomfortable where they are moſt ſpacious, through the blackneſs, and dirtineſs of the ſmoaky walls. The barbarians, who inhabited thoſe dungeons in paſt ages, muſt have been often expoſed to break their necks, or to be ſuffocated by the heat and denſe ſmoak, raiſed by lighted pieces of cleft fir which are uſed as candles in theſe infernal manſions.

A journey into the cavities of mountains, and examining, from ſtone to ſtone, in thoſe ſubterraneous mazes will certainly contribute to furniſh juſter ideas concerning the interior ſtructure of that part of our globe neareſt to the ſurface. There nature may be diſcovered, as it were, at work, and abundance of materials may be collected for the eſtabliſhment of good theories, or, at leaſt, for deſtroying thoſe that are ill grounded. In this reſpect, I have hitherto not been very fortunate, as all the natural caverns of calcareous mountains which I have viſited, reſemble one another. Yet I hope, one day or other, to find ſomething beyond this uſual uniformity, by viſiting mineral mountains that have not yet been opened by men. What inſtructive leſſons of natural chemiſtry may be found written in their dark caves! After examining, ſome-

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times, the ſyſtems, and claſſical diſtributions of the moſt celebrated naturaliſts, and comparing the foſſils with the deſcriptions relative to their production, I could not help thinking, that nature has been but ill interpreted by her chief prieſts and panegyriſts; and hence I may venture to affirm, that the ſubterranean part of natural hiſtory has ſtill need of much improvement, and of many obſervations well aſcertained by unprejudiced men, in order to form any tolerable idea of it.

Among the peregrinations under ground, which may give ſome pleaſure to the lovers of phyſical geography, that which we made in the largeſt cavern of the fountains of the Cettina, is entitled to a place, as it furniſhed ſomething more than our other ſubterraneous travels in the bowels of theſe calcareous mountains. Near the mouth we could walk a little way erect, but were ſoon obliged to bend ourſelves, and then lie down and creep along a narrow, rough, and dirty path, well calculated to blunt the edge of ordinary curioſity. The common ſtillicidious works which abound here, are as various and multiplied as can be deſired in narrow places, where there is not room for magnificence, as in the grotto's of Antiparos, and the Baumannian cavern in Germany. The moſt curious, though not the moſt frequent *luſus naturæ* to be ſeen, are certain vaſes, as it were faſhioned like large imbricated ſhells; one of which, that I particularly obſerved, has the diviſions above half a foot broad, and very nicely formed. Theſe do not reſt upon the ground, but proceed from the centre of the vaſe bending outwards. The vaſe is not above four inches thick, but capable of containing a great deal of water, it being near three feet high. No art could form a piece more beautiful for decorating a fountain, or grotto in a garden; art, I ſay, that endeavoured to imitate nature, and not

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not to adorn it. The ſame waters that, falling from a height of little more than two feet, formed the imbricated vaſe ſo regularly, make alſo models of fortifications well underſtood, hollow in the middle, and ſurrounded with little baſtions, and walls not above three or four inches high. I would not have you think that our imagination made us find in theſe works a perfection which they have not; nature has really executed them in ſo maſterly a manner, that they deſerve particular attention. She has here been ſtill more exact than in forming the *Pietra Matematica* at Martignone not far from Bologna. In creeping over the cavern, we met with ſome little pools, in which great quantities of ſaline *laminæ* lay in heaps. They are very white, and of a calcareous ſpatous nature; and after having been extended on the ſurface of the water like a ſtoney veil during a long ſucceſſion of time, have ſucceſſively ſunk to the bottom, to leave room for the formation of other ſimilar *laminæ*. This curioſity * I have alſo ſeen ſeveral times in the vaſt ſtone quarries of Coſtoggia in the Vicentine. Many ſmall tubes of equal candour and brightneſs ariſe here and there immediately under the drops moſt impregnated with ſtalactitic parts like alabaſter, and which actually appear, at firſt ſight, ſprung out of the earth like aſparagus. Their ſhiney brightneſs bears a greater reſemblance to ſnow than to refined ſugar. The appearance of vegetation that deceived the celebrated Tournefort, and, more recently, the learned *Paſſeri*, author of the foſſil hiſtory of the territory of Peſaro, did not impoſe upon us. The French naturaliſt was not ſo well ſkilled in lithology as he was in botany; and hence he

* V. Arduini, *Lettere Orittografiche*, in vol. VI. of the *Nuova raccolta d'Opuſcoli*, publiſhed periodically in Venice by *Simone Occhi*. Theſe letters, and ſeveral other pieces of various Italian authors, treating of foſſil natural hiſtory, deſerve to be reprinted, and rendered more univerſally known, and uſeful.

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he ought not ſo much to be blamed for believing that to be real which was only apparent; and our Italian philoſopher is ſtill more excuſable, who, confiding in obſervers much leſs acute than himſelf, planted his deductions on facts not well demonſtrated. Yet he is very far from the prejudices of the ſchools, who, following too literally the good old Pliny, admitted the faculty of vegetation even in the ſtones; for of all the ſpecies of marble this ſtillatitious calcareous alabaſter appeared to him the only one to which vegetation could be granted, denying it clearly and expreſsly to the others. The little hole which the columns uſually have in the centre, and their riſing from the floor of the caverns; the aſſertion made to him that no water dropped from the vaults of the grottos; with ſome other inaccuracies of obſervation, induced him to offer, though with the greateſt modeſty, whatever his happy genius could ſuggeſt to explain the geneſis of thoſe inſulated bodies. I have read with much pleaſure the ingenious conjectures of our eminent Peſareſe philoſopher, before-mentioned, whom I love and reſpect; but my obſervations, contrary to thoſe that were communicated to him, did not permit me to be of his opinion. The longitudinal hole appears equally in the tubes that riſe from the floor, and in the ſtalactitic *ſtriæ* that hang from the vaults of the caverns, and whoſe origin is manifeſtly ſeen. If the water did not filtrate from the vaults when this naturaliſt's correſpondents were making their obſervations, it muſt have been in dry weather, as they would certainly have perceived the dropping in rainy days. Thus, at Venice, under the arch of the Rialto bridge, and from the front of the Jeſuits church, the *ſtriæ* are ſuſpended, and the water runs along and augments them after the rains.

The

The frequent manifeſt diſruptions, and partial ruins of ancient *ſtrata* of ſoft ſtone, or calcareous marble, which appear in theſe caves, confirmed us, at every ſtep, in our opinion that a ſubterranean river had corroded their baſes. In fact, having advanced forward ſome time, we came to a natural bridge, formed by an arch between two ſtrata, under which the eventual waters of the neighbouring mountains have their outlet, and have excavated an ample ſubterraneous canal between the ſtrata. There my Lord Biſhop choſe to reſt himſelf while we proceeded forward; and in the mean time, with a preſence of mind which philoſophers often have not, he ſent back his Morlacco guide for a further proviſion of fir laths to light us the reſt of our way. The above-mentioned bridge is only twelve feet wide, and about as much in length. It looks like a model of the bridge of *Veja*, firſt deſcribed by Sig. Betti, and ſince by me;* and ſerves to demonſtrate, that my illuſtrious friend, Brigadier *Lorgna*, well known among the mathematicians, explained, better than any other, the manner whereby ſuch natural works of architecture are formed by means of corroding waters. Perhaps this too would paſs for one of Nature's caprices among thoſe who believed that ſhe had made all that tract in the Veroneſe hills *di getto*, that is, of caſt matter. For the defence of one fundamental extravagance naturally produces others, which however do not deſerve the trouble of being refuted. On our return to the ſubterraneous bridge, we found our friend ſitting by it all alone. No Biſhop, ſurely, of the ancient church ever penetrated into catacombs more gloomy, or of more difficult acceſs than thoſe which this worthy Prelate was now exploring; and the place where he waited for us, ſeemed to be a real image of Dante's *inferno*;

* *Giornale d'Italia*, T. 11. N. 41. pag. 401. See *Deſcrizione del ponte di Veja* di Zaccaria Betti. Verona, in 4to. fig.

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inferno; a ſituation well ſuited for one diſpoſed to reflect on Young's Night Thoughts, and to render them ſtill more diſmal.

Not contented with the plain diſcovery of the channel through which the rain waters ran in paſſing under the ruſtic marble bridge, we wanted ſomething more; looking on what we had already ſeen as only a greater degree of probability that a ſubterraneous river actually exiſted near us, as we had ſuſpected. It appeared impoſſible to deſcend lower down, the ſides of the bridge were ſo high and ſteep. Yet this difficulty did not diſcourage us; we made a ſhift to let ourſelves down from a ſtone that juts out from the rock, and were ſoon in a condition to proſecute our reſearches. The marble on which we trode is preciſely of the ſame nature as that which forms the baſe of *Liburnia*, and the adjacent iſlands, whereof I had a ſpecimen engraved in my obſervations on the iſland of Cherſo and Oſero. * The tubular *Oſteolites*, changed into calcareous ſpar, reſiſt the eroſion of the waters there below, juſt as they do on the ſea ſhore, much better than the ſtoney cement that binds them; and hence they are full of protuberances. Deſcending a few ſteps further upon the inclined ſtratum, we found ſeveral ſmall lakes and pits. It is manifeſt that theſe have been hollowed in the ſtratum by the fall of water from above, which, in floods, on the melting of ſnow, has no doubt, preſſed with violence on all parts of thoſe caverns for an outlet. Theſe pits made us perceive that we ſtood upon a vault, and that the ſpace below was occupied by water; the marble brinks of the pits did not ſeem to be above two feet thick, which is alſo the uſual thickneſs of that kind of ſubſtance along the ſhore of the *Quarnaro*. We threw

* *Saggio d'oſſervazioni ſu l'Iſola di Cherſo ed Oſero.* Ven. 1771. Fig. 1. pag. 106.

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threw ſeveral pieces of white ſtones into the clear water of the lakes, and could obſerve them falling for near a minute, but loſt ſight of them before they touched the bottom. In order to aſcertain the courſe of theſe waters, which appear as it were ſtagnant, having neceſſarily loſt the force of their current by their paſſage through ſuch rough uneven places, we threw in ſome pieces of paper, and they moved ſlowly according to the direction of the water in the pits which are ſhut up all round. I was in hopes of ſeeing ſome fiſh in theſe, hitherto, unexplored waters, but could not diſcover any; either becauſe there was none, or becauſe the lights and noiſe had frightened them away. On my return above ground, well ſatisfied with what I had ſeen, I could not help caſting an eye on the high mountains which flank the courſe of the Cettina, and whoſe tops, in former ages, were undoubtedly traverſed by a river, probably the ſame which now running partly under and partly above ground, has found a new road to the ſea, leaving abandoned for ever the vaſt beds of fluitated ſtones through which it wandered in times very remote from ours, and opened its temporary channels.

The inhabitants of the lands through which the river Cettina runs, who were formerly ſubject to the Ottoman government, and conſequently had more frequent opportunities of examining the riſing of its waters, obſerved that it had a conſtant analogy to the riſing of the lake of *Buſco-Blato*, twenty long miles diſtant from the ſources of *Jarebiza*, on the other ſide of the mountains. Hence they concluded that there was a ſubterraneous communication between *Buſco-Blato* and the river; neither the diſtance, nor the height of the intermediate mountains, hindered them from forming ſo reaſonable a conjecture. That lake a-

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bounds ſo much in fiſh, that the hogs catch them, and by feeding on them become moſt enormouſly fat. The Morlacchi who inhabit the ſkirts of the lake, and are Ottoman ſubjects, avail themſelves of the quantity and fatneſs of the fiſh to make oil. They extract it by the ſimple method of frying the fiſh in frying pans, and ſtraining the melted fat, lay it up in jars for domeſtick uſes. I could not learn if the waters of *Buſco-Blato* have a conſtant period like thoſe of the famous lake of *Czirkniz*; but it is highly probable that they have ſome period known to the inhabitants of the neighbourhood.

A MORLACCO *Dinner in a Church Yard.*

Our dinner was prepared at a little diſtance from the caverns, and the ſpot choſen for that purpoſe was an ancient burying place, near the ruins of a church dedicated to the Aſcenſion. The many trees that have been planted among the graves form an agreeable ſhade; and the large ſtones under which the bones of the valiant ancients are laid, deſerve notice, as well for their number as their bulk. I call them valiant ancients, becauſe the arms frequently found in that place ſhew that they were warriors. Under theſe trees there are above two hundred very heavy maſſes, each of a ſingle piece of marble, which might very properly be called tombs of giants. Some of thoſe ſtones are nine feet long, about five broad, and near five feet thick. They are at ſuch a diſtance from the mountain, that it is not poſſible to imagine how the old inhabitants of that country could bring them from thence, without the help of well contrived machines. For the moſt part thoſe enormous maſſes are of a parallelopepid figure, and very well cut; but ſome are of a

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more barbarous irregular form. None of them have any inſcription, but almoſt all have arms in baſſ-relief.

Our entertainment was given by the Morlacco *Vukovich* with all the profuſion of victuals that could be deſired. That honeſt Morlack cannot ſpeak a word of Italian; but underſtands hoſpitality perfectly well. One of the grave ſtones ſerved us for a table; but we had more curious tables ſet before us to ſuſtain two roaſted lambs These were flat unleavened cakes, deſtined to ſerve at the ſame time for diſhes and for bread. We eat of ſome of the various meats ſet before us with great appetite, but could not taſte ſome others that were eſteemed the delicacies and refinements of Morlacco cookery. We thought the cakes excellent, and they were ſoon eat up, when the learned Biſhop turning to me, ſaid very opportunely: *Heus, etiam menſas conſumpſimus!* The Morlacco table reſembles that of the Tartars; as the two nations are, in many things, like each other; therefore would not pleaſe the nice taſte of more poliſhed Europeans. The table cloth is generally a woollen carpet; table napkins are rarely uſed, and when there are any, they are alſo woollen. They carve with a long heavy knife which every Morlack carries at his girdle. Little uſe is made of forks, though the maſter of the houſe ſometimes has one. They have wooden ſpoons in abundance, and can furniſh one for each of the company, if not very numerous. Thoſe who obſerve the true national cuſtom, never uſe glaſſes, or cups; inſtead of which, there is one large wooden cup called *Buckkara*, in which they mix wine and water, and it goes round, from mouth to mouth, till it is empty. The mutual kiſſes of the gueſts are often infuſed in this liquor, but they do it no harm. Inſtead of China and earthen ware, theſe good ſavages had a few wooden diſhes which were

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filled with milk of various kinds and compoſitions. In theſe diſhes every one of the company dipt his ſpoon according to his own pleaſure; as we, a Morlack officer, our hoſt Lukovich, and our guides, all did at the ſame time with brotherly equality. The worthy biſhop was as well contented as any other of his brethren could have been at table with all his clergy about him.

The Morlacco manner of roaſting ſheep and lambs, is very ſimple. Having drawn and flayed the animal, they ſpit it whole upon a large branch of a tree cut for that purpoſe; when a great fire is lighted before it, and firſt the one ſide, then the other is roaſted. In their ragouts, garlick makes always the principal ſeaſoning; and they have deteſtable tarts of milk and flour, in which they alſo put garlick. Notwithſtanding all this, I ſoon accuſtomed myſelf ſo well to the Morlack way of eating, that I frequently dined heartily on ſour milk, garlick, ſcallions and barley bread, which is their ordinary diet. In a plain near the burying place, we ſaw the ruins of ancient habitations quite deſtroyed, which however appear to have belonged to ſome Roman ſettlement.

Of the plain of PASCOPOGLIE, FONTE SALSA, *the iſland of* OTOK, *and the Ruins of the* COLONIA ÆQUENSIS.

The Cettina, augmented by the concourſe of various branches deſcending from the ſources of *Jarebiza*, traverſes with dignity the plain of Paſcopoglie, which, in rainy ſeaſons, is ſubject to inundations, becauſe the river has no banks, and its courſe is frequently interrupted by mills, ill contrived artificial cuts, iſlands and banks of mud, which embarraſs the channel thus left entirely to eventualities. For this, and other

other reaſons unhappily combining, the plain of Paſcopoglie, and almoſt all the fine rich vallies of Morlacchia, lie quite uncultivated. We did not follow the courſe of the Cettina, but leaving it for ſometime, we ſaw it again at the paſs of *Han*, where, not far from the river, there is a ſpring of ſalt water, called by the inhabitants *Zlone-ſtine*, that is, ſalt ſtones. We did not viſit this ſpring, though we paſſed near it, not having been told of it in time, and purſued our journey to *Otok*, a ſmall iſland in the middle of the river, famous among the inhabitants of that neighbourhood for the ſlaughter of ſeveral Morlack families, which had taken refuge there in the laſt war, and for ſometime defended themſelves bravely. The various branches of the Cettina are of conſiderable depth thereabouts, but take up too large a ſpace of fenny ground, which might be prevented by uniting them together, and raiſing banks from the ſources downwards, ſo that the waters, reſtrained within narrower bounds, might paſs between the mountains at *Trigl* in a larger body, and with greater force. From thence they would fall from rock to rock as far as the ſmall fort of *Duare*, where they take a ſmoother courſe, till they fall into the ſea below *Almiſſa*.

In ancient times this river was certainly not left to itſelf, and ſo neglected; for at a little diſtance from the paſs of *Han* the *Colonia-Æquenſis* flouriſhed, though now no veſtige of it remains diſcoverable at firſt ſight. The city of *Æquam* was built on a low hill of moderate extent, which commands the fine plains of Cettina, and the proſpect of that large river, which runs not far from it. No remains of ancient Roman buildings are now to be ſeen above ground; but the inhabitants of *Seign* dig in ſearch of ſquared ſtones, and ſometimes find beautiful pieces of cornices, and other ornaments worked in the beſt taſte. We

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ſaw ſome remains of an inſcription, in cubital letters, on a large cubick maſs of ſtone, but time had corroded it ſo much, that few of the letters were legible. The Morlacchi, not long ago, dug out of theſe ruins, now covered with graſs and bruſhwood, a noble monument, on which the name of that ruined city is inſcribed; but, through barbarous ignorance, they broke it into three pieces, in order to tranſport it with leſs fatigue to *Seign*; and one of theſe pieces, which is now wanting, juſt happens to be that which contained the name of the reſpectable man in honour of whom the monument was erected.

On the ſide of the hill of Æquum there was in former times an amphitheatre, not very large, as appears by its ruins, diſpoſed in a circular form, and now covered with earth and graſs. The canals are ſtill viſible that ſerved to conduct the water into its area, and they have been cut out of the live rock, not built. It appears that the *Æquenſes* levelled the place appointed for the edifice before they dug the canals, for they are cut in the ſtone that forms the little hill, then covered with marble ſlabs, and run winding under the ruins: the largeſt is about two feet ſquare, and the ſmalleſt little more than one. The ſtone on which the *Æquenſes* worked is exceedingly tender, and almoſt farinaceous. I took a ſpecimen of it near the mouth of the ſmaller aqueduct, and find it has ſome analogy to the ſciſſile ſtone of *Bolca* of the ſofteſt kind. No fragments or remains of marine animals are diſcoverable in it, though it contains ſome ſmall leaves of ſea-weed, or at leaſt of ſomething that very much reſembles it. This kind of ſtone does not reſiſt cold, and I believe it is apt to ſhiver by the heat of the ſun after rain; hence the inſcription which we found expoſed to the open air is loſt. Father Coronelli calls this place *Nojae*, noting that it

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was taken from the Turks by the Venetian General Valiero in 1685. *Lucio*, in his memoirs of *Trau*, calls it *Chglivich*. *Luccari*, a Raguſean annaliſt, not remembring that the dipthong ſometimes makes a great difference in the ſignification of words, and not having conſulted the ancient geographers, pretended that the *Colonia-Æquenſis* was about ſix miles diſtant from the ancient *Epidaurus* in a place called *Cogniz*, but he had not obſerved the ancient itineraries, by which he might have diſcovered his miſtake. *Cogniz* might have been ſubſtituted for *Equilium*, if in thoſe parts there had been anciently a place of that name derived from horſes. *Kogn* in Sclavonic ſignifies *Equus* a horſe, but not any thing that has a relation to *juſtice*, as *æquum* ſignifies. On the road from *Æquum* to *Seign* there is a view of a conſiderable number of little hills ſcattered in very pleaſant perſpective, and covered with large trees, near which the Morlacchi generally build their cottages. The baſe of theſe protuberances is ſometimes of an aſh coloured clay, containing foſſil ſhells.

Of the VULCANIC *hills, and lakes of* KRIN; *and of the* GYPSUM *of Seign.*

We ſtopped at *Krin*, where we were courteoſly treated with honey combs by the poor inhabitant of a cottage more delightfully ſituated than many grand palaces. He did not defend himſelf, in any manner, from the revenge of the bees, in extracting the honey; yet none of them ſtung him, although he felt about for what he wanted in the hive with great deliberation. The honey was delicious beyond expreſſion, and while we were eating it under the ſhade of the trees, the poor man's eldeſt daughter came and preſented each of us with a noſegay of ſweet

ſweet herbs. It is impoſſible not to feel and reliſh ſuch acts of ſimple ruſtick hoſpitality. The ſummit of the hill of *Krin* is of the ſame kind of ſtone as that of *Æquum*, and the foot appears to be vulcanic, hence a kind of porous pumice ſtone, and a heavy iron earth hardened by fire, are found between the hill and the contiguous lakes of *Krin*. Theſe lakes afford no great variety of fiſh, but among them the inhabitants pretend there is a hairy ſpecies, and ſome deſcribed it very ſeriouſly, adding, that they keep at the bottom, and therefore it was very difficult to catch any without poiſoning the waters. I am not diſpoſed to believe phyſical extravagancies unleſs I ſee them; and therefore I ſuſpended my belief of the hairy fiſh becauſe I did not ſee it. The two lakes of *Krin* are divided by a ſmall iſthmus, under which they communicate, and the intermediate earth ſhakes when trod upon. In the meadow grounds of *Margude*, where the lakes are, ſometimes new ones are formed by a ſudden ſinking of the earth; and one particularly, not long ago, under the eyes of the Morlacco *Bilonoſki*. The earth fell in before him, all at once, for thirty five paces of circuit, and the ſpace was filled with muddy water. Theſe ſudden ſubmerſions of the boggy low lands of *Seign*, reſemble the *Cuore* of the *Poleſine*, *Dogado*, *Bologneſe*, and other low marſhy diſtricts that ſwim upon the water, and may with propriety be called floating iſlands. The celebrated Count GIROLAMO SILVESTRI, Canon of Rovigo, has wrote a learned diſſertion concerning their production, which is inſerted in the *Giornale d'Italia* 1771, for December, and merits to be read. The nature of the land of *Krin*, and *Margude* is analogous to that of theſe *Cuore*, being compoſed of, and ſuſtained by roots of marſhy plants cloſely wreathed together, which, being looſened by ploughing, fall a prey to the waters. There was no fiſh in the new lake when we ſaw it; but

but its depth, as far as we were able to examine it, appeared to be conſiderable. Its perpendicular banks ſhewed that the fall had actually happened not long before.

The meadow of *Margude* is ſurrounded by little hills, to ſome of which it is united by means of an eaſy declivity. All theſe hills are more or leſs vulcanic, particularly towards the baſe. That the hills ſituated further back are likewiſe of the ſame kind, at leaſt in part, appears manifeſtly by the rivulet *Carocaſiza*, which conveys along with it ferruginous lava, and black, grey, and reddiſh ſtones of a vulcanic nature. The poor hamlet of *Carocaſiza*, is almoſt wholly inhabited by Gipſies, a wandering race, as every body knows, and who infeſt the places through which they paſs. In that part of Morlacchia ſubject to the Venetians, many families of gipſies employ themſelves peaceably in huſbandry, though more commonly in manufacturing iron; and they work very well, conſidering the ſimplicity of the inſtruments they make uſe of. Some alſo deal in horſes; and the Turks on the confines deteſt them, becauſe they are frequently outwitted by their malicious cunning. The gipſies ſpeak a language different from the Illyrian either of Boſſina or Dalmatia; probably, it reſembles the Armenian, or Mingrelian, as a great part of the gipſies ſcattered over Europe, and particularly in Bohemia, come from thoſe countries. Having croſſed the rivulet *Carocaſiza*, which falls into the Cettina below *Æquum*, and leaving behind us the village which gives name to the rivulet, we ſaw a little hill of *Gypſum* to the left of the road that leads to *Seign*. This *gypſum* is of a much better quality than that of the territory of Ancona, from whence Venice is ſupplied. I know not if it would turn to the account of the merchants to have this article from Morlacchia, becauſe the carriage to the

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ſea ſide would coſt the fourth part of a Venetian ſol per pound; but I ſhould think that the ſmall ſum annually ſpent in the Pope's ſtate for this commodity might be more uſefully employed in Dalmatia, even if the preference were given at the coſt of a ſmall difference in the price.

Of the Fortreſs of SEIGN, *and the Plain near it.*

The fortreſs of *Seign*, where the breaſts of a few hundred Morlacchi ſerved as baſtions againſt thirty thouſand Turks in the laſt war, never was a remarkable piece of military architecture. Some are of opinion that *Aleta* ſtood on the ſame ſpot. Only one inſcription well preſerved, on Greek marble, is found there; and that has been long ago barbarouſly uſed in the wall of a houſe: but it might have been brought, as well as ſome others, from the ruins of *Æquum*, only five ſhort miles diſtant, or perhaps from ſome more ancient city, whoſe name and ruins are now loſt. This, however, cannot be ſaid of another inſcription, and ſome baſ-reliefs ill preſerved, that are in a place called *Le Fontaine*, near *Seign*, where ſeveral other pieces of antiquity have been dug up. The ſituation is remarkably beautiful, and therefore has not been neglected by the Romans, who always fixed their ſettlements in the beſt parts of the conquered countries. The Turks fortified a ſteep maſs there according to their barbarous manner; that is, without any intelligence except the planting a number of artillery. Their fortifications are in fact almoſt all diſmantled, though this place is deſcribed by *Buſching* as in very good condition. A noble Venetian reſides at *Seign* with the title of *Providitore*; and there are quarters for cavalry, whoſe principal occupations are to eſcort the caravans from the Turkiſh frontiers to Spalatro. The hill of Seign is of *breccia* irregularly

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regularly diſpoſed in ſuch a manner as looks more like the ruins of ſtrata than real ſtrata. It ſtands in the bottom of the plain which extends to the Cettina, and is often overflowed by that river. Below the town the plain is very narrow, and circumſcribed by mountains that join the *Cucuzu Clanaz*. At the foot of theſe mountains are ſtrata of a blueiſh clay, which contains various ſpecies of marine bodies calcined; and huge maſſes of marble *breccia*, fallen from the mountains, lie in this clay. The beautiful and large valley of Cettina, or Seign, is, as has been obſerved, ſubject to the inundations of the river, which ſerves it for boundary, running at the foot of the hills of *Rude* and *Trigl*. It is alſo rendered unhealthy by the water of the *Sutina*, which loſes itſelf in marſhes, and ſo, perhaps, gave ground to geographers to fix a lake there. The ſeveral rivulets and torrents, which, without any order or reſtraint, deſcend from the mountains, and unite their turbid waters with the Cettina, produce, it is true, ſome interruption to the current, but that is neither conſiderable for its extent, nor for the time it laſts. The waters that do the greateſt damage are thoſe of the *Rude*, which ſpread themſelves near *Trigl*, in the neighbourhood of which many remains of Roman monuments are found; and there, perhaps, *Tilurium* once ſtood. The ſtraits into which the river enters there, cutting the great mountain that divides the diſtrict of Cettina, are, perhaps, one of the principal cauſes of the inundation, by retarding the current. It would be a uſeful and meritorious attempt to endeavour to find a remedy for this evil, which renders a fine province fruitleſs as well as unhealthful; and perhaps the remedy might be found by reſtraining the principal bed of the river within banks; preventing its ſpreading through the plain, and by regulating the ſtreams that fall into it. The Morlacchi of the diſtrict of *Seign*, are not ignorant of the advantage that might be derived from ſuch an operation both to publick and

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private intereſt, and they would willingly enough undertake the work themſelves. That frugal and robuſt people, too often diverted from labouring their own lands by the appearance of publick ſervice, would be very glad to be employed to the real advantage of their Prince whom they love and venerate, if the malice and avidity of a few did not find means, in this work alſo, to render their labours of little benefit to them.

Of the courſe of the CETTINA, *its precipices, and caſcades.*

From *Trigl* to *Duare* the Cettina precipitates, from rock to rock, on a bed cut almoſt perpendicularly through the bowels of the mountain. Below *Novaſella*, it runs over a tract of ground that would be leſs horrid than the reſt, if the waters, left to their own force, did not keep it almoſt conſtantly overflowed. A ſhort mile diſtant from the fort of *Duare*, a very important poſt, and the only defence of the whole country on the ſea coaſt from Almiſſa to Narenta, the Cettina forms a magnificent caſcade, called by the inhabitants *Velika Gubaviza*, to diſtinguiſh it from a leſſer fall a little below. I went to ſee it early in the morning, deſcending from *Duare*, where I had been received with cordial hoſpitality by Signor *Furioſi*, a gentleman of Almiſſa, and governor of the Fort, whoſe brave anceſtors contributed greatly to the conqueſt of it from the Turks.

I was obliged ſometimes to creep, and ſometimes to leap from one rock to another, in order to arrive at a place from whence I could have a good view of the caſcade. Let them tell you what they will of the precipices of Mount Pilate in Switzerland, they cannot poſſibly be more impracticable. Notwithſtanding this, the ſhepherds, with their leather flaſks full of water, climb, with ſurpriſing dexterity, from the bottom of theſe

theſe abyſſes, to the plain tops of the hills where their thirſty flocks feed. If any of them miſs a ſtep, they muſt inevitably be precipitated, and become food for the vultures; but ſuch accidents rarely happen. The vultures of thoſe parts, near the mouth of the Cettina, are dreadful animals, meaſuring above twelve feet from the tip of one wing to the other, and are able to lift up in their claws, and carry away to their neſts, lambs, nay, ſometimes ſheep, and even the children of the ſhepherds. I ſaw one of them, and meaſured it myſelf. *

The right hand bank of the river, which roſe perpendicularly to the clouds above my head, when I was within reach of having a full view of the fall, is about five hundred feet high; and the left ſide, on which I ſtood, is ſo ſteep, that without the inequalities of prominent rocks to lay hold on, it would be abſolutely impoſſible to deſcend.

In that place, the bed of the river is ſcarcely eight feet broad; this profound narrowneſs, added to the horrour of the many hanging rocks, is ſufficient to depreſs the higheſt ſpirits. The water of the river does not, however, precipitate from ſo enormous a height. Its fall may be compared to that of *Velino* near *Terni* in Umbria. But the wild craggy precipice below *Duare* has

* The extraordinary bulk of the vultures of thoſe parts is not to be wondered at, nor the truth of this fact called in queſtion; the vultures of the Swiſs mountains are of the ſame race, and not only carry off kids, lambs, wild goats and children, but will alſo attack grown up men. The ſpecies is called, *le Vautor des Alpes*, and it is particularly deſcribed by old Conrad Geſner, though unaccountably neglected by moſt other ornithologiſts. A well preſerved ſtuffed ſpecimen of this noble bird may be ſeen in the curious collection of the Revd. Mr. Sprungli, near Berne in Switzerland.

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has no kind of reſemblance to the valley of *Pepigne*, which, amidſt its horrour, is rather pleaſant. There a man habitually melancholly, and who choſe to indulge his gloomy ſtate of mind, might ſet up his habitation; but, in the noiſy horrour of the Cettina, buried between immenſe rocks, no man could live, but one abandonded to deſpair, an enemy to light, to ſociety, and to himſelf. The waters that precipitate from a height of above a hundred and fifty feet, form a deep majeſtick ſound, which is heightened by the echo reſounding between the ſteep and naked marble banks. Many rocks tumbled down, which impede the courſe of the river after its fall, break the waves, and render them ſtill more lofty and ſounding. Their froth, by the violence of the repercuſſion, flies off in ſmall white particles, and is raiſed in ſucceſſive clouds, which by the agitated air, are ſcattered over the moiſt valley where the rays of the ſun ſeldom penetrate to rarify them. When theſe clouds aſcend directly upwards, the inhabitants expect the Scircuo, or ſouth eaſt wind, and their obſervation never fails. Two huge pilaſters ſtand, as if for a guard, where the river takes its fall; one of them is joined to the craggy brink, and its tops covered with earth, where trees and graſs grow; the other is of marble, bare and inſulated. While my companion was drawing this magnificent piece, Plate XI. I had time enough to write the deſcription of it, and did not neglect to examine the ſubſtances that compoſe theſe precipices. I found a very remarkable ſpecies of *Oclithus*, whoſe grains are connected by a ſtrong ſparry cement, ſpreading like net-work; and a beautiful kind of angulated *Breccia*, with large white ſpots, and ſtreaks of lively red, which would be fit for any noble work. The Morlacchi who ſerved me here as guides, ſeemed more curious and obſerving than any I had before met with. They examined with great attention, the

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CASCADE OF
VELIKA GVBAVIZA

Jac. Leonardis scul.

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the progreſs of the drawing, and were ſo far from ſhewing wonder or contempt at my collecting ſtones, as our peaſants uſe to do, that they appeared even curious to examine them themſelves. My vanity was not a little flattered by the ſurpriſe of thoſe men, born, and hardened in fatigue, at my agility in climbing and deſcending the rocks; and I was highly pleaſed on hearing one of them exclaim; *Goſpodine, ti niſſi Lanzmanin, tiſſi Vlah!* Sir, you are not an Italian poltron, you are a Morlacco. The honeſt Morlack, who was tired of following me among the rocks, certainly paid me a very ſincere compliment. Little more than half a mile below the *Velika Gubaviza*, the river falls again from a height of about twenty feet, and forms the *mala gubaviza*, or little caſcade. This exhibits a leſs magnificent, but a more theatrical view. The river falls among craggy maſſes at the foot of the mountain, and then expands over the ſpacious valley flanked by woody hills, and commanded by the mountain of *Duare*. The main ſtructure of this mountain is not of marble, though the top is. Deſcending towards the river, I obſerved a great variety of marine earth more or leſs hardened; but a kind of aſh-coloured clay, without ſand, predominates.* From the foot of mount *Duare*, a rugged hollow ſtretches along ſouthward, ſeven miles to the ſea ſide, and preſerves diſtinguiſhable veſtiges of the abandoned bed of a river, which perhaps has been interrupted by the fall of ſome large piece of a mountain, and the water turned another way. When I examined the brows of theſe diſmantled hills, it appeared by no means impoſſible, that from new ruins, new interruptions might ariſe, and ſo produce other deviations of the Cettina.

Courſe

* *Argilla humido cæruleſcens, uſtione ruſeſcens.* Lin 52. 9.
Argilla vitreſcens, rudis. Wall. *Argilla rudis ſabulo deſtituta.* Wolterſdorf.

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Course of the CETTINA *from* DUARE *to its Mouth.*

Proceeding from Duare along the banks of the river, towards its mouth, which is twelve long miles distant to the westward, I was more confirmed in the opinion I had before conceived, that the summits of the greater mountains of littoral Dalmatia are of marble, and their body and roots, of a different substance. For as the top of Duare is marble, so is that of mount *Dinara*,* which stands between the river Cettina and the sea; and as the inferior parts of the former are of earth more or less hardened, so the sides of the latter are composed of various modifications of marine matter, not marbly. Four miles below Duare, along the high road, are certain veins of stone, that deserve particular attention; as they resemble, even when examined just under the eye, a wall of stones well squared.† These veins are, in appearance, almost vertical, and their formation is analogous to that of similar veins near Spalatro, as both owe their induration to waters filtrated between the interstices. When I give you an account of some observations made along the sea side, on the exterior part of mount *Dinara*, I shall describe a piece of stratum that lies open to the eye, like that just mentioned; and it being of an instructive and singular nature, I had a drawing made of it. Further on the road, in the jurisdiction of *Slime*, are to be seen, in great quantities, various kinds of flints of different colours, and curious marbly compositions of marine bodies, susceptible of a fine polish

* This is not the mount *Dinara* that stands on the confines of the districts of *Knin* and Seign. It is common in Dalmatia to find the same names of mountains, &c. in different places.

† *Cos.* 4. *particulis impalpabilius, effervescens, mollis, cædua*, quadrum *specim.* Wall. 84.

Quadratum, Alberti. Quadrum, Cæsalp.

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poliſh. I have ſome ſpecimens that deſerve a place in any muſeum whatever. One, in particular, is an aggregate of marble compoſed of *lenticulares*, fragments of other foſſil marine bodies, and white angular pebbles. Among the ſmall petrified *Lenticulares* contained in this marble, ſome have their concamerations diſtinguiſhable on the outſide. In looking with the naked eye, on the ſmooth ſuperficies of this marble, one diſcovers a very great variety of ſections of the *lenticulares* contained in it; and almoſt every particle, when examined with a glaſs, affords ſomething agreeable. The river, along the banks of which I travelled, is almoſt every where embarraſſed with *tophus*, which increaſed daily, and renders it unnavigable, notwithſtanding the great quantity of water that conſtantly runs in it, and the great advantage that would redound to the province, if it were navigable as far as *Duare*. The mountains of *Pogliza*, on the right of the Cettina, as well as thoſe of *Slime*, *Svinijchie*, and *Caccichie*, bear great plenty of oaks, the timber of which might be tranſported to the ſea at a ſmall expence, if the river was rendered navigable. They would certainly coſt much leſs than the oaks of Iſtria, and be very uſeful in ſhip building. It is alſo probable, that the timber of thoſe hills is of a better quality than that which grows in Iſtria, on low moiſt ground. To open ſuch a canal, there would be no need to cut through rocks with the chiſſel, for axes would be ſufficient to clear away the tophaceous beds that now obſtruct the paſſage.

In going down from the diſtrict of *Svinijchie*, towards *Miriz*, there is a great variety of whetſtone, grey and blue, and, in the *Breccia* fallen down from the mountains, a great number of ſmall angular flints, and fragments of marine bodies. At *Miriz*, the veſtiges of a large natural wall are ſtill ſtanding, particularly

on the left side of the river, the waters have opened a passage through it, which must have been by a work of long time. The view of those masses of rocks forms a piece of scenery that relieves the eye after the tiresome uniformity of the neighbouring uncouth places. Who knows to what ancient and deep parts of mountains this vast wall once belonged, and when it was hardened into stone by the waters that in other ages passed through the vertical aperture, of which, in the course of time, so strange a vestige remained. The disposition of the internal mountains of Dalmatia, and of some of those near the shore, of argillaceous nature, is almost constantly traversed here and there by veins of sand stone, or of sand stone mixed with shells. The great wall of *Mirix* has on both sides been flanked of old with strata of clay, of which the contiguous mountains are also internally composed, and particularly those into the heart of which the wall stretches, both on the right and left side of the river, which has forced its passage through by overturning a part of it. The ample ruin manifest in that place, and the great height of the masses through which the river forced its way, tearing the bowels of the mountain of which they formed a part, are objects well calculated to shew how many, and great alterations the superficies of this globe suffers by the means of mountain waters. And this is demonstrated not only by the river Cettina, or the *Kerka*, but even by every little torrent; nor is it applicable alone to the mountainous regions, but also to the low plains subject to inundations that raise them; and to the sea coasts, near the mouths of rivers, which, like Ravenna, and Adria, in the course of a few ages, are set at a distance from the sea.

The

The Cettina, without the ſtraits of Mirizz, ſpreads itſelf wide over the valley, and is divided into many branches by the banks of gravel, and taphaceous obſtructions. Small barks may come up within a ſhort mile of this place, and formerly they uſed to bring ſalt for trade to the fort of *Viſſech*, which was diſmantled an age ago, being thought uſeleſs. Farlati, in his *Illirico Sacro*, ſpeaks of Viſſech as a ſtrong and well fortified place not many years ago; and Buſching calls it a city; though the truth is, it neither has inhabitants, nor even veſtiges of habitations. From this place to the ſea, the river has a free courſe for three miles, though it takes a winding road among rocks of frightful height, which form perpendicular banks for a long tract. The variety of proſpects that occur in the ſhort courſe of the Cettina from *Viſſech* to *Almiſſa*, is truly charming. The paſſage is ſometimes from very narrow canals to open vallies, well cultivated, and partly covered with cattle; then between high rocks where no iſſue can be ſeen, and ſo by turns through a variety of pleaſant views, and frightful paſſages, you arrive at the mouth of the river, regretting the ſhort duration of ſo magnificent and delightful a ſpectacle.

Of the Provinde of POGLIZA *and its Government.*

The appendages of mount *Moſſor* extend, on the right of the river, following its winding courſe from the village of *Gardun* oppoſite to *Trigl*, all the way to the ſea. This tract of hills that riſes between Cliſſa and Duare, and reaches from the mouth of the *Xarnovniza* to that of the Cettina, goes under the name of *Poliza*. The river ſerves as a confine to the province of Pogliza for above thirty miles, interrupted only by a ſmall part of the territory of *Duare*. The Poglizans have no city, neither had

they any in ancient times, as far as records go. They put themſelves ſpontaneouſly under the protection of the republick of Venice, having ſhaken off all dependance on the porte under which they formerly lived, though always governing themſelves by their own ſtatutes. The government of this little republick has ſomething ſingular in it; and deſerves to be known. Three orders or ranks of perſons compoſe the whole body of the people, conſiſting of about fifteen thouſand. Twenty families pretend that they are deſcended from noble Hungarians, who in turbulent times had taken refuge in theſe parts. Another larger number of families boaſt that they are nobles of Boſnia, and the reſt are the commonalty of peaſants. Every year, on St. George's day, the Poglizans hold their diet, which they call *Zbor*: and each of the three orders forms a ſeparate encampment on the plain of *Gatta*. There they chuſe new magiſtrates, or confirm the old ones. The *Veliki Knes*, or great Count, is the firſt dignity of the ſtate, and is always choſen from the noble Hungarian families. The electors are, the inferior Counts, that is, the chiefs of villages, choſen out of the Boſnian nobility, and deputed by their reſpective communities to the diet. In the mean time, while the inferior Counts elect the great Count, the people, divided into various aſſemblies, repreſenting the inhabitants of the villages, chuſe the inferior Counts for the following year, or confirm thoſe who deſerve it in their office. And the firſt order of the ſtate proceeds at the ſame time to the election of a captain, and two proctors. It happens but ſeldom that the great Count is choſen without violence, becauſe there is generally more than one candidate. In that caſe, after having canvaſſed the votes underhand, one of the boldeſt partiſans lays hold of the box containing the privileges of the community, which is the depoſite annually committed to the care of the

great

great Count: He runs with the box towards the houſe of him for whom he is engaged, and every member of the diet has a right to purſue him with ſtones, knives, and fire arms; and many make uſe of their right to its full extent. If the man takes his meaſures well, and gets ſafe to the houſe propoſed with the box, the great Count is duly elected, and none dares make further oppoſition. The laws of the Poglizans, and their procedures retain ſomewhat of the barbarous age in which they were compiled; yet ſome of them are very reaſonable. If there happens to be any litigation about land, the judge goes upon the ſpot, and hears both parties, ſitting on the ground, with his own cloak ſpread under him; he decides the cauſe before he riſes, and generally to the ſatisfaction of both parties. When a Poglizan is killed by one of his countrymen, the Count, or Governor of the village, attended by the principal people, goes to the houſe of the murderer, and there they eat, drink, and plunder what they like beſt. After this ceremony, notice is given to the great Count, who alſo repairs without delay to the ſame place, and conſumes every thing that remains. If the murder is not attended by ſome atrocious circumſtance, the penalty is forty dollars, which make about the value of eight ſequins; this contribution is called *Karvarina*, that is, bloodſhed, or price of blood. In former times, murderers were condemned to be ſtoned to death; but at preſent they are liable only to pecuniary puniſhments, becauſe the great Count is unwilling to expoſe his own ſentence to an appeal to the Governor General of Dalmatia; yet ſometimes the criminal is ſtoned directly after the fact is committed, and ſo no time is left to appeal. Proofs by fire, and boiling water, are ſtill in uſe among thoſe people, and the victims are ſometimes ſeen diſabled, and half roaſted. The Poglizans have another kind of torture, that is at leaſt equal to any of the

analogous

analogous inhumane inventions among politer nations; they put ſplinters of pine between the nails and fleſh of thoſe accuſed of certain crimes, but never make uſe of any other wood, becauſe their ſtatute preſcribes this ſpecies alone.

Notwithſtanding theſe traits of legal barbarity, the Poglizans are humane, hoſpitable, and good friends, when they have no ground for ſuſpicion. Their ignorance renders them diffident in ſome caſes, hence it is impoſſible for ſtrangers to get information from them about any thing that might engage their curioſity, or to inſpect ancient records; and they are always afraid that a ſtranger who can read, is a digger for hidden treaſures. The ſhepherds of Pogliza have a particular devotion for St. Vito, and ſolemnize his holiday by burning odorous wood before their cottages. In former times, the Sclavonic nations worſhipped the God *Vid*. They believe that, by taking away the ice from the hollows of their mountains, where it lies the whole year round, a north wind is raiſed, which deſtroys their plantations, and therefore they do not ſuffer it to be touched. They treat their women uncivilly, and never ſpeak of them without a preface of excuſe, like the Morlacchi, which is a ſufficient ſpecimen of the rudeneſs of their manners. Their ſtrength, fine ſtature, ſobriety, and habitual fatigue, form the Poglizans for ſoldiers. Their country is inacceſſible to large bodies of troops, but they can aſſemble, and come down from their mountains in formidable numbers. Not many years ago, ſtimulated by the ſpirit of revenge, they threatened the city of *Almiſſa*, making a deſcent in a large body as far as the banks of the river; and there was a neceſſity of uſing the artillery in order to diſperſe them. There is, in the territory of Pogliza, a hamlet called *Pizun Dubrava*, which ſignifies, the wood of *Pinus*.

Perhaps,

Perhaps, in old times, the idol *Pirun* was adored there, as he was at *Novogorod*, till JOHN BASILIOVITZ, Great Duke of Muſcovy, conquered that famous city, and the provinces depending on it.

Of the City of ALMISSA, *and the injuſtice done by* F. FARLATI *to its inhabitants. Geographical errors of the ſame Author.*

Almiſſa, called *Omiſh* by the Sclavonians, is perhaps the *Oneum* of ancient geographers, though not the *Peguntium*, as is commonly believed. It lies at the foot of very high rocks, on a level point of land, which is bathed by the Cettina, and the ſea. Buſching, that it might enjoy a better air, has placed it on a high rock; and Father FARLATI, whom I have often cited, aſſerts that it is built on a hill, adding alſo with equal exactneſs, that it is five miles diſtant from the ruins of *Epeſum*; though the diſtance between theſe two places is thirteen long miles. There are no veſtiges of good antiquity about Almiſſa; but ſome fragments of vaſes, tiles, and inſcriptions found at *Starigrad*, that is, the old city, are indications of an ancient Roman ſettlement there. The only monument of antiquity now preſerved in Almiſſa is a ſmall dedicatory inſcription built up in the wall of the city. It has the title of Biſhoprick, but not the reſidence, in the ſame manner as Knin, where, notwithſtanding, Buſching has placed a reſident Biſhop. Almiſſa, together with its territory, forms a part of the dioceſs of Spalatro. It has a ſeminary of Sclavonian prieſts deſtined to ſerve in the pariſh churches of Pogliza, and in the iſlands, where the Sclavonic liturgy ſubſiſts. Almiſſa was a neſt of pirates in thoſe ages of war and blood, when circumſtances formed the temporary character of nations, and ſometimes led them from the principles of humanity to barbarous

barous ferocity. The current of the river, hid, as it where, between high rocks, and the difficulty of purſuing them through dangerous banks of ſand with which the mouth of it is embarraſſed, were no doubt, ſtrong temptations to the Almiſſans, in the times of anarchy, when they were ſubjects, or allies of the Narentans, and even later, when they lived under the *Heneg of S. Sabba*. But in theſe days, they are totally changed, and the writer on Illyrian affairs was certainly in the wrong to accuſe them of being heirs to the bad diſpoſition of their anceſtors. This, otherwiſe, reſpectable author ſeems, contrary to the maxims of his profeſſion, to have determined to irritate a whole community. Beſides this, he has accumulatad ſo many miſtakes in a few lines, that I cannot help taking notice of them, to prevent his readers from giving implicit faith to what that learned and celebrated man has wrote on the wrong information of his correſpondents in Dalmatia. I ſhall therefore point out ſome inaccuracies in the firſt volume, and which are crouded together between page 155 and 161. He ſays that *Scardona* is a ſtrong city, though it is only renaſcent, and as yet has neither gates nor walls of any kind. * He ſpeaks of *Vrana* on the faith of the topographer

* Scardona. *Civitas exigui circuitus, ſed mœnibus cincta, et propugnaculis ad hoſtiles aggreſſiones ſuſtinendas, et propulſandas non invalidis—Vrana modica civitas loco ſatis amœno—fortalitii non invalidi—formam accepit—Suburbana late diffundit ut ſexcentas facile domos complectantur.* Singum, *a Tiluro in occaſum, et a Cliſſa in boream ſpatio propemodum æquali diſjunctum—aſſurgit mons* Maſſaron *ab Cliſſa ad Tilurum perductus—Prope fontibus Tiluri ſeu Cettinæ, loco arduo, & prærupto inſidet* Livnum *unde haud longo ſpatio interpoſito abeſt in occaſum* Verlica, *caſtellum neque infrequens, & ſatis validum—Oppidum, cui nomen eſt* Dumno—*cui finitimus eſt Pagus—qui Clivinus dicitur*—Almiſſa, *ſive Peguntium.* Glodovi *cujuſdam caſtelli ſupra* Almiſſam *meminit* Palladius. Citclutum *nunc imperio ſubeſt Venetorum*—Opus—*arx firmiſſimis mœnibus, ac munitionibus ſepta.* Farlati Illyr. Sacr. Proleg P 2. a pag. 155 ad 159. Concerning his ſtrange miſtakes relative to Moſtar, ſee pag. 161.

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topographer of the kingdom of Hungary, as a city, or caſtle ſtill exiſting, and Vrana is only a heap of ſtones and rubbiſh, uninhabited, and frightful. *Seign*, which he ſays is equidiſtant from *Cliſſa* and the *Cettina*, ſtands five miles from the river, and twenty from *Cliſſa*. There is no hill near Spalatro that is called *Maſſaron*, but there is mount *Moſſor* that reaches from Cliſſa to the mouth of the Cettina. *Klivno* is not, as he writes, ſituated at the ſources of the laſt mentioned river, which ariſes not far from *Verlika* on the Venetian territory, but it is thirty miles diſtant from the ſources, and above twenty from any part of that river. *Verlika* has no *eaſtellum validum*; it is only a poor village, more inconſiderable than an ordinary hamlet in Italy. *Dumno*, or *Duvno*, is not near the river Cettina, but, at leaſt, forty mountaneous miles diſtant from it, and about twenty ſeven from *Klivno*. Almiſſa is not the *Peguntium* of the ancients, nor has it any hill or caſtle near it that is called *Gladov*; but lies at the foot of one of the tops of the mountain *Dinara*, which is called *Borak*. *Citlue* belongs to the Turks, not the Venetians. The fort of *Opus* is not ſurrounded by walls, its ramparts and platform are only of earth. *Moſtar* ſtands on the river Narenta, and cannot be confuſed with the territory of *Montenegro*, which is at leaſt ſeventy miles diſtant; its ſituation is not rocky, and its diſtance from *Clobeck* is not twenty, but ſeventy miles.

* I was hoſpitably treated by ſeveral of the inhabitants of Almiſſa, and particularly by Count *Pietro Caralipeo*, who deſerves to be named with diſtinction, as well for the integrity, as for the politeneſs of his manners. The air of Almiſſa would be very unwholeſome, on account of the marſhes formed at the mouth of the Cettina, had not nature provided the remedy in

a freſh wind, that riſes about midnight in all ſeaſons, and blowing from between the ſteep and narrow banks of the river diſſipates the unhealthful exhalations. Nevertheleſs the Almiſſans are ſubject to agues in the hot ſeaſon.

The fiſhing at the mouth of the Cettina is very ill managed, though the ſituation is ſo convenient that it might eaſily be improved to national advantage. The Almiſſans are ſatisfied with having reſervoirs for their daily uſe, and think not of more extenſive advantages. Their fiſh is of exquiſite taſte, and very large, as is generally the caſe where the ſea and river waters are mixed. In the black ſea, for example, fiſhes grow, in a ſhort time, to a bulk beyond the proportion of their kinds; and the good naturaliſt Pliny attributes it to the number of rivers that run into it.* But the Almiſſans, to avoid the trouble of fiſhing themſelves, rather chuſe to leave it to the neighbouring iſlanders, and to buy the fiſh from them.

The territory of Almiſſa runs fifteen miles along the ſhore as far as *Brella*, and, although not cultivated with much ſkill, produces excellent wine; the goodneſs of the ſoil ſupplying the defects of cultivation. The *Moſcadello*, and old *Proſecco*, of Almiſſa, and in general all the wines made there with any tolerable care, deſerve a place at the niceſt tables. If they were better known, they would certainly be prefered to many foreign wines that are much more coſtly. The Almiſſans have ſome poſſeſſions on the coaſt where the ſoil is of a bituminous nature, and the wine made there retains the ſmell of the ſoil.

Of

* *Piſcium genus omne præcipue celeritate adoleſcit maxime in Ponto, cauſa multitudo amnium dulces inferentium aquas.* Plin. Hiſt. Nat.

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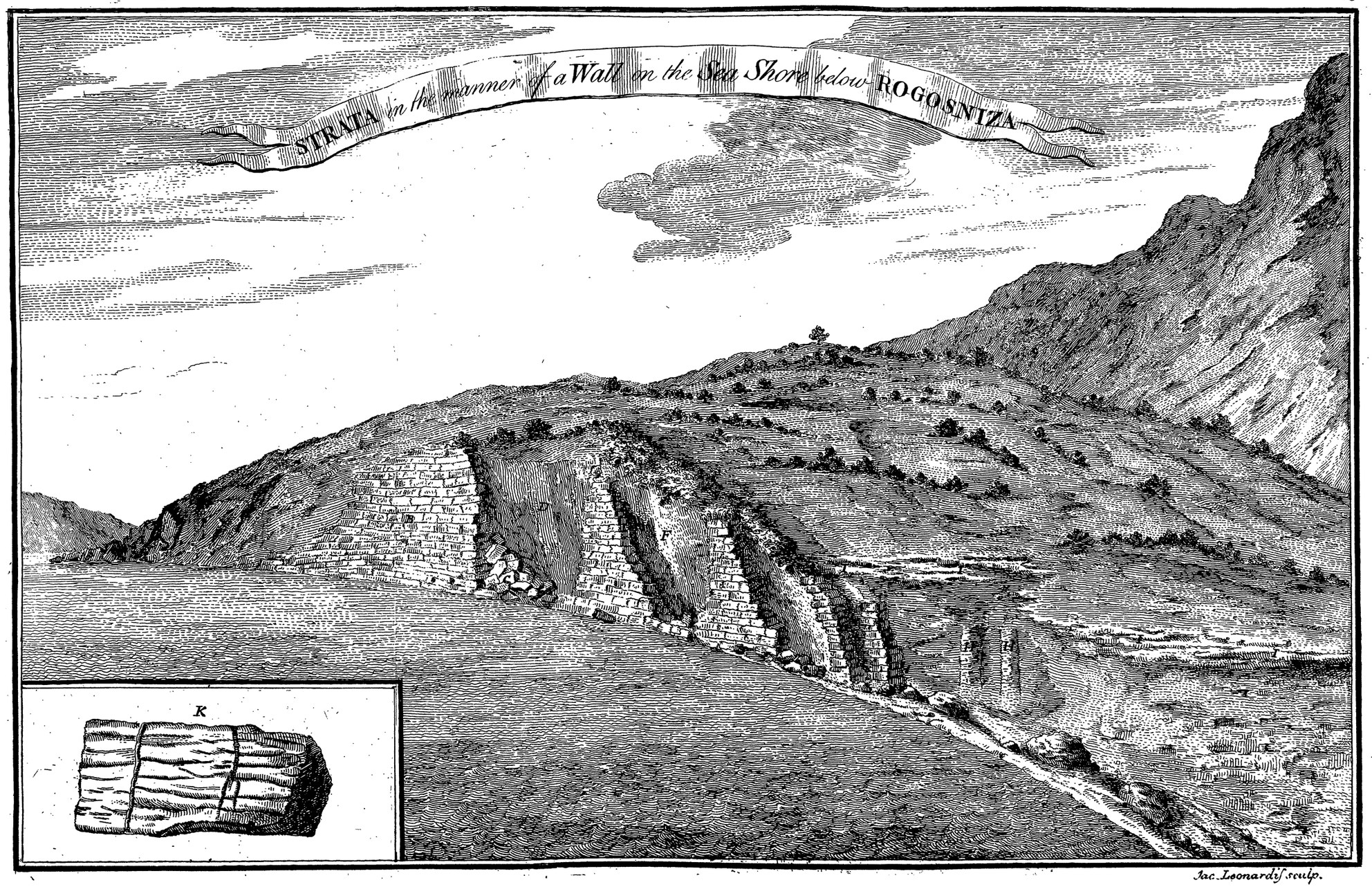
STRATA in the manner of a Wall on the Sea Shore below ROGOSNITZA



Jac. Leonardis sculp.

Of the natural Wall of ROGOSNIZA, *and concerning* VRULLIA, *the Peguntium of the Ancients.*

The coaſt throughout the diſtrict of Almiſſa is compoſed of marble ſtrata on the upper parts of the hills, and of different kinds of argillaceous earth, and whetſtone below. In a ſmall bay below the village of Rogoſniza, there is, quite expoſed to view, a natural wall (Pl. xii) like that which I met with on the other ſide of mount Dinara, by the ſide of the Cettina, in the diſtrict of *Slime*. The point A of the promontory is of ſubverted whetſtone. The wall B is of ſandſtone. The ruins marked C are produced by the diſſolution of the ſemilapideous earth D, by which the whole wall is ſupported. At E there is another piece of natural wall, and at F are new veins of blue earth. G G G are alſo whitiſh walls, and H H H H other heaps of marine clay indurated, without traces of *Teſtacei*. The waters which fall down the back of the mountain from the tartareous cruſt I I I I, whereof ſome large pieces, that have tumbled down, lie by the ſea ſide. The ſtone K is one of thoſe that compoſed the wall B, and is two feet long. Theſe natural walls are ſo well concocted, that at firſt ſight they appear remains of ancient fabricks.

Four miles to the eaſtward of the ſmall bay where I had the natural walls drawn, the place is called *Vrullia*. This name is common to a mountain, a large hollow, and the ſubmarine ſprings that are ſeen there. This hollow is the ſame of which I have ſpoke of before, and it ſeems to have been excavated by ſome ancient river. The ſprings which bubble up from under the ſea are ſo conſiderable, that they might paſs for the riſing again of a river ſunk under ground. *Vrullia* has the ſame derivation as the

word *Vril*, which in Sclavonian ſignifies a fountain; and this etymology, rendering the name of Vrullia, the *Berullia* of Porphyrogenitus, analagous to that of *Peguntium*, ſince Πηγυ and *Vril* are ſynonimous, induces me to believe, that the caſtle named *Peguntium* by ancient geographers was ſituated in this place, and not at the mouth of the Cettina. No remarkable veſtiges of antiquity now exiſt on the ſpot; yet it is evident, by the quantity of fragments of vaſes, tiles, and ſepulchral inſcriptions now and then dug up, that this tract of coaſt was well inhabited in the Roman times. The principal cauſe why the tracts of ancient habitations cannot be diſcovered about Vrullia, is the ſteepneſs of the hill above it, and the quantity of ſtones brought down from thence by the waters. The mouth of the hollow of Vrullia is dreaded by ſeamen, on account of the ſudden impetuous guſts of wind that blow from thence, and, in a moment, raiſe a kind of hurricane in the channel between the *Primorie* and the iſland of *Brazza*, to the great danger of barks ſurpriſed by it.

Not far from this place, *Cantelius*, whoſe chart of Dalmatia is adopted as one of the beſt, places the mouth of a river, which he derives from the lake of *Proloſaz*, by him called *Breſtolaz*. But whoever knows the continuity and height of the mountain Dinara cannot admit even the poſſibility of ſuch a river. Many writers on Illyrian affairs, and ſeveral geographers, have copied this error; and likewiſe the pretended iſland of the river Cettina near its mouth, and innumerable other mutilations of names, and diſtances.

Of the PAKLARA, *or* REMORA *of the Latins.*

I will finiſh this letter by relating a fact, to which you may give that degree of faith which you think it merits. You have often

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often read, in ancient naturaliſts, of wonderful things done by the *Remora*, or *Echeneis*, and not without ſome ſurpriſe will have learnt Pliny's ſtory, who, after having told us, on the faith of another, how Anthony was retarded on his voyage by means of this fiſh, aſſerts poſitively, that a ſhip with Caligula on board and four hundred rowers, was actually ſtopt by one of thoſe fiſhes, while the reſt of the fleet went on at a great rate. When I read this, I contented myſelf to ſhrug up my ſhoulders, without perplexing my brain to find out by what natural principle, or matter of fact, ſuch an opinion could become ſo generally received, that a man of ſenſe, as Pliny certainly was, ſhould affirm it in poſitive terms.* But chance led me to the diſcovery. We were ſailing in a ſmall bark between Vrullia and Almiſſa with a freſh equal gale, in the afternoon. The mariners were all at reſt, and the ſteerſman alone was awake, and attended in ſilence to the direction of the bark; when, on a ſudden, we heard him call aloud to one of his companions, ordering him to come and kill the *Paklara*. Our learned friend Signor *Guilio Bajamonti* was with me, and underſtanding what the man meant, deſired him to ſhew him the fiſh that he wanted to be killed, but the fiſh was gone. Having interrogated

* *Ruant venti licet, & ſæviant procellæ (echeneis) imperat furori, vireſque tantas compeſcit, et cogit ſtare navigia—Fertur actiaco marte tenuiſſe prætoriam navim Antonii properantis circumire, & exhortari ſuos, donec tranſirit in aliam. Ideoque & Cæſariana claſſis impetu majore protinus venit. Tenuit & noſtra memoria Gaii principis ab aſtura antium remigantis. Nec longa fuit illius moræ admiratio, ſtatim cauſa intellecta quum e tota claſſe quinquaremis ſola non proficeret. Exilientibus protinus qui id quærerent circa navim invenerunt adhærentem gubernaculo, oſtenderuntque Caio indignanti hoc fuiſſe quod ſe revocaret quadringentorumque remigum obſequio contra ſe intercederet. Qui tunc, poſteaque videre eum limaci magnæ ſimilem eſſe dicunt. E noſtris quidam latinis Remoram appellavere eum.* C. Plin. ſec. Nat. Hiſt. l. xxxii. c. 1.

gated the ſteerſman, who did not want ſenſe, and was a fiſherman by profeſſion, why he had ordered the *Paklara* to be killed, and what harm it had done; he anſwered, without heſitation, that the *Paklara* uſed to take hold of the rudder with his teeth, and retarded the courſe of the bark ſo ſenſibily, that not only he, but every man who ſat at the helm felt it there without ſeeing it. He added, that many a time he himſelf had catched the *Paklara* in the fact, and had frequently killed and eat it. That it was often met with in the waters of *Liſſa*. That in ſhape it reſembled a conger eel, and its length did not uſually exceed a foot and a half. That if I had a mind to ſee, and catch one of them, I needed only to go in a fiſhing boat, in the warm ſeaſon, between the iſlands of Leſina and Liſſa, where he had never failed to meet with them every year. I will not deſire you to believe every thing my pilot ſaid; but confeſs that I ſhould be very glad to ſee the *Paklara* when it had taken hold of the rudder of a bark under ſail. The wonderful ſtrength of the muſcles of ſome little marine animals, ſuch as the *Lepades*, that ſo obſtinately reſiſt any attempt to diſengage them from their rocks; the ſtroke proceeding with ſuch rapidity from the Torpedo, known at Venice by the name of *peſce tremolo*, and in the ſea of Dalmatia by that of *Trnak*; the vigour ſhewn by the *Dentici* in their convulſive motions even when out of their own element; not to mention the larger fiſh, ſuch as, Tunny, Dolphins, &c. give me ground to ſuſpect, that, if all that the ancients wrote concerning the *Remora* be not juſt literally true, it is not altogether falſe. It is certainly a thing worthy of ſome reflection, that *Pliny* ſpeaks ſo diffuſely concerning this phenomenon, as of a known fact that could not be called in queſtion. The Greeks alſo adopted the notion of this extravagant faculty, by ſuperſtitiouſly hanging the *Remora* about women with

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with child, to prevent abortion. I am not, however, ſo ready to credit theſe extravagancies, or in the leaſt perſuaded of the wonderful retarding force of this little fiſh; and think it ſufficient to believe that the force of the *Paklara* may be felt at the rudder of a ſmall bark, without troubling myſelf further about the *Remora*.

The *Remora* of the ancients, and the *Paklara* of our days, have this remarkable difference, that the firſt is almoſt always deſcribed as of the teſtaceous kind, and the ſecond is of the genus of the *Muræna*.

Adieu, my moſt eſteemed friend, and pray Heaven to grant me long journies, and good health.

TO

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TO THE

HONOURABLE AND RIGHT REVEREND

THE

LORD BISHOP OF LONDONDERRY, &c.

Concerning the PRIMORIE, *or* PARATALASSIA *of the Ancients.*

TO your genius, My Lord, indefatigable in the ſearch of nature's ſecrets, and which often leads you through rough and deſert paths, rarely, or never trod by the great, and to that friendſhip with which you honour thoſe who ſpare neither trouble nor fatigue in clambering over ſteep and rocky mountains, to read the ancient phyſical hiſtory of our globe, I owed my firſt excurſion to Dalmatia, as well as the earneſt deſire of returning thither. Afterwards, when it became neceſſary that I muſt abandon that intention, by embracing your generous propoſals to paſs to the obſervation of greater objects, in more remote, and hitherto unknown lands, particular circumſtances determined me to repaſs the Adriatic, inſtead of navigating the ocean. Upon this occaſion I reviſited that part of Dalmatia which I before had the honour of viewing only curſorily in your Lordſhip's company; and depending on my remaining at leaſt two years in that kingdom, I furniſhed myſelf with preliminary informations, and advanced further into the country than the neceſſity of your affairs permitted you to go. But the plan of this

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expedition alſo being diſconcerted by an unforeſeen accident; and being hence forced to content myſelf with the little that I ſaw, and under the neceſſity of proving to the world that I was not idle, I put my obſervations in ſuch form as they were ſuſceptible of, though not ſuch as I would have choſen had I been able to have made them more complete. I rely ſo much on your goodneſs, My Lord, that I flatter myſelf you will not be diſpleaſed at my addreſſing a part of theſe obſervations, ſuch as they are, to you; and that you will accept of them as a teſtimony of my grateful and reſpectful remembrance of you, which no diſtance can ever remove or diminiſh.

Of the Town of MACARSKA.

That tract of ſea coaſt which lies between the two rivers Cettina and Narenta, the firſt of which is the *Neſtus* and *Tilurus*, and the ſecond the *Narus* of the ancients, compriſing what was properly called Dalmatia two ages before our Era, was known by the Greeks of the low times under the name of *Paratalaſſia*, and from thence was named *Primorie* by the Slavi. Appian tells us that the *Ardiei*, or *Vardei*, poſſeſſed a great number of cities there, partly built by them, and partly taken by force from the neighbouring nations ſubdued by them, before the invaſion of the Romans; and it appears by the *Tabulæ Peutingeriana*, that after the conqueſt, many of thoſe cities remained, and were inhabited by the conquerors who alſo founded new ſettlements. And, if other proofs were wanting to confirm this truth, the many inſcriptions dug up in all thoſe parts near the ſea, and ſometimes even among the hills, afford ſufficient ground to ſuppoſe it.

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The pleaſantneſs of the coaſt, the fertility of the ſoil, the convenient ſituation for commerce with the inland provinces, and the great plenty of fiſh in thoſe waters, muſt have invited ancient nations, though barbarous, to form ſettlements there; but from their imprudent cultivation of the hills, and the neceſſity which they have, perhaps, been under of cutting down the woods for various uſes, may, probably be derived the deterioration of the country, the loſs of much ground near the ſea, by its being covered with gravel, and the impetuous fury of the mountain torrents, which render a part of it uninhabitable.

Macarſka, in our days, is the only town in all that territory, and, from its ſituation, may be ſuppoſed to have roſe out of the ruins of the ancient *Rataneum* of Pliny, which probably was the ſame that DION CASSIUS calls *Retinum*. The ſubterraneous grottos, of which there are many in that neighbourhood, are analogous to thoſe which, as that hiſtorian tells us, reached far within the mountains about *Retinum*, and to which the inhabitants retired, having firſt ſet on fire their city, with the Romans in it, when they took it by ſtorm. After the total deſtruction of *Retinum*, the ſituation was not altogether abandoned; for we find it called *Muchirum* by Procopius, and in the ſixth centnry, it was called *Mucarum*. In the ſame century, the council of Salona, preſerved to us by *Tommaſo* the Arch-deacon, created a Biſhop of *Mucarum*; and the ſepulchral inſcription of *Steſano* the firſt Biſhop of that ſee, was dug up in our days. Soon after, the *Avari* came, and took poſſeſſion of the *Primorie*, and the plains of *Narenta*, which, after that event, got the name of *Pagonia*, becauſe theſe new gueſts were idolaters, and had the denomination of *Paganini* in Illyrium. It might be conjectured that *Inaronia* was another name of this tract of maritime country, taken from Narona the capi-

tal; if it did not ſeem more reaſonable to read it *Maronia*, with Tommaſo the Archdeacon, and in that caſe, the barbarous word *Maronia* would be equivalent to *Paratalaſſia*, and *Primorie*. The anonymous writer of Ravenna miſtakes *Mucarum* for *Inarenia*, which in the table is placed twelve miles to the eaſt of *Onæum*, or *Almiſia*; but *Mucarum*, perhaps, ſhould ſtand ſeven miles further eaſtward, where traces of buildings are ſeen without any name. Porphyrogenitus gives the name of *Mocros* to Macarſka, making it the capital of one of the three diſtricts comprehended within the limits of *Pagania*, that is to ſay, in the ſea coaſt between the mouths of the two rivers above mentioned. As the name of *Pagania* is derived from *Paganin*; ſo *Mocros*, and the corrupted names *Mucerum*, *Muchirum*, and *Muichirum*, probably come from the word *Mokar*, which ſignifies *moiſt*, or *watered*; and hence, agrees very well with the ſituation of Macarſka, which is watered by ſeveral perennial rivulets.

Macarſka, after having formed a part of the Narentan ſtate for ſeveral ages, when thoſe pirates were exterminated, paſſed, together with the reſt of the *Primorie*, under the obedience of various chriſtian princes, in the low ages; afterwards it became ſubject to the Ottoman Porte, and at laſt, in the year 1646, it gave itſelf voluntarily to the Republick of Venice, which received it, and gave the town many privileges.

Whatever may have been the former name of Macarſka, certainly nothing ancient remains about it in our days. It is altogether new built, and is the only town in Dalmatia where no ruined houſes, and heaps of rubbiſh are ſeen. The extent of it is but ſmall, and the population not numerous; it has no forti-

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fications of any kind, and is actually without either gates or walls; whatever modern geographers may ſay, and particularly Buſching, who is alſo quite miſtaken in placing it on the top of a hill. It ſtands at the foot of a great mountain, and ſtretches along the ſides of its own ſmall, and not very good harbour, * on plain ground. The air of this diſtrict was not very ſalubrious in the laſt age, through the unwholeſome vapours exhaled from a ſtanding pool of brackiſh water. The inhabitants came to a reſolution of opening a communication between it and the ſea, well knowing that a ſmall tract of ground overflowed by fetid waters corrupts the atmoſphere to ſome diſtance round it; and, in fact, the iſſue correſponded perfectly well with their patriotic views; and the population, that goes on augmenting, has enjoyed much better health ſince than it did before.

The people of Macarſka have very lively parts, and apply themſelves particularly to trade; they alſo ſucceed well in letters, of which the *Abbè Clemente Grubbiſch* gave a recent and ſignal example. He was born at Macarſka of an ancient and noble family, and in 1773 was immaturely ſnatched away by death, from the republick of letters, and from his country, to which he was an honour; from travellers who were at the ſame time inſtructed and entertained by him, and from his friends, by whom he was deſervedly loved and eſteemed. He has, no doubt, left ſome valuable MSS. among which the *Storia Narentina*, near finiſhed, deſerves particular mention; and a treatiſe on the origins and analogies of the Sclavonic language, full of laborious erudition. This learned man, whoſe manners were worthy

* Maty, and *La Martiniere* give in their Dictionaries, a large harbour to Macarſka.

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worthy of the golden age, had retired to a country houſe, where, by his example, he endeavoured to reform the awkward huſbandry of the Primorians; at the ſame time, attending to his ſtudies with philoſophic tranquillity, and enjoying the ſweets of a ſolitude, which he had rendered agreeable and pleaſant. Monſignor *Kadcich* Arch-biſhop of Spalatro, born at Macarſka, was likewiſe equally diſtinguiſhed by the nobility of his family, and by his learning. He publiſhed a courſe of moral theology in Sclavonian for the uſe of the clergy officiating in that language, and who had nothing of that kind to aſſiſt them before; and left his library, well furniſhed with eccleſiaſtical books for the benefit of his country. Neither ought F. Andrea Cadcich Mioſſich to be omitted among the writers of Macarſka, he having publiſhed a collection of national heroick ſongs; though it muſt be confeſſed that he ſhewed little good taſte in the choice, and inſerted many things trifling and apocryphal.

The ſoil about Macarſka produces abundance of oil and wine, beſides almonds, mulberry trees, honey and ſome corn. The nature of the ground is light, and gravelly, and does not want moiſture, as the other littoral parts of Dalmatia generally do. It is eaſy to ſee that the exterior ſuperficies has been formed by ſmall torrents; and theſe torrents have hollowed their beds in the ſame ſubſtances that were triturated by them of old. A rivulet called *Vrutak* runs through the town, but its water is not ſweet, nor wholeſome, though it proceeds from a place much higher than the level of the ſea. The water of the brook *Budiceviza* is therefore made uſe of; it is very pure and light, and runs down from the ſmall village *Cotiſena* into the ſea near Macarſka.

It

It ſeems, that, notwithſtanding the quantity of gravel and mud brought down upon the coaſt, by the mountain waters, the ſea has gained, and continually gains ground in thoſe parts. In calm weather a piece of a wall is ſeen under water in the mouth of the harbour; and it certainly was not built under water in ancient times: and the rock called St. Peter's rock, which covers the harbour, is continually incroached upon by the waves, tho' they beat not with equal force there, as on ſome other promontories along the coaſt. The contiguous pool likewiſe, where the waters ſtagnated not long ago, becauſe they had not a free courſe to the ſea, afforded a proof of the riſing of the level; for in digging the communication before mentioned, they found the remains of a magnificent tomb, and pieces of noble columns; and I ſaw at Macarſka, a very beautiful medal of M. Julius Philippus, in gold, that was found in the ſame canal; neither of which certainly were pleaced originally in a ſituation covered by water.

Of the Mountain BIOCOVA, *or* BIOCOVO, *that commands* MACARSKA.

The higheſt mountain on all the coaſt of *Primorie*, is the *Biócová*, at the bottom of which the town of *Macarſka* lies. This mountain appears white at a diſtance, and without any trees; ſo the names of *Albio*, and *Adrio*, which it bore of old, are both very ſuitable to it. The bare, ſtoney, and ſteep aſpect of this uninhabited mountain, exhibits a view ſufficiently ugly to diſſuade an attempt to viſit it. It is not poſſible to aſcend it on horſeback, and in many places, very difficult to climb on hands and feet. Notwithſtanding which, the curioſity to ſee the natural conſervatories of ice, which, in the burning heat of ſummer,

mer, maintain themſelves in the caverns of the higheſt part of the mountain, induced me to attempt the aſcent. My agreeable friend, Signor Guilio Bajamonti, conſented to bear me company. We left Macarſka at day break, with two Primorians for guides, without whom, my prudent friend did not chuſe to go, not thinking it adviſeable to expoſe himſelf to the chance of meeting Haideus, many of whom, ſecure by the ruggedneſs of the ſituation, inhabit like wolves, the caves of *Biocova*. I, leſs conſiderate, and more diſpoſed to depend on the probity of theſe banditti, who indeed too often become ſo through the avarice of a rapacious miniſter, and not for their own crimes, would without much heſitation have gone alone. The back of the mountain is altogether ruinous, and the leaſt impracticable paths that we could find, were thoſe by which the rain water runs down. The gravel and broken ſtones gave way under our feet, and put me in mind of the fatigueing aſcent of Veſuvius, in which I had the honour to accompany your Lordſhip, and where our ſteps forward, ſerved ſometimes to make us ſlide farther back.

The fine view of the ſea, promontories, and iſlands, which we enjoyed from that height, was almoſt the only compenſation for our labour. It was the beginning of October, and there was no ice in the reſervoirs which we went to ſee through ſuch diſaſtrous paths—leaping from rock to rock. We went down into a very deep gulph or cavern, that receives light from above, and on one ſide pierces far into the bowels of the mountain; we found a very ſharp cold air in it. Without, we ſaw wooden troughs, where the ſhepherds uſe to melt ice and ſnow for their flocks to drink. The mountain is almoſt quite bare of trees, even in the deepeſt and moſt inacceſſible hollows; and very rarely, in proportion

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proportion to its extent, the traces of ancient woods are ſeen; though no doubt, they have once exiſted in the impracticable parts of the mountain, and far from habitations, from whence it was phyſically impoſſible to tranſport large pieces of timber. But the fires kindled by the ſhepherds to warm themſelves, and ſometimes, perhaps, to enjoy a ſavage ſpectacle, have deſtroyed even the traces of large trees. They ſay, that in former times, the flames proceeding from theſe ſlender beginnings, continued ſometimes for whole months.

The upper part of the *Biocova*, is compoſed of *breccia* and common whitiſh marble. In the maſſes of the firſt, as well as of the ſecond kind, are found adventitious pieces of angulated flints, cracked without, and full of ſmall marine bodies; but within, it is hard, cloſe, almoſt tranſparent, and capable of a very bright and equal poliſh. The roots of this mountain extend along the ſea ſide, from one end to the other of the territory of Macarſka; and hence all the foſſils, properly belonging to it, which I ſhall have occaſion to ſpeak of in this long letter, as I proceed in the courſe of my journey, to the different places where I obſerved and collected them.

But before I end this account of my jaunt to the *Biocovo*, permit me to add, as a ſpecimen of the character of the Primorian peaſants, a little adventure that we met with in coming down from the mountain. The two men who went before us armed, according to the cuſtom of the nation, happened to ſee a viper that was moving peaceably on near the path. They both ran furiouſly to kill it with ſtones; our interceſſion to let it alone had no effect; they ſaid that it was a malefick demon diſguiſed in that form, and even turned with horrour from the way which

 they

they thought it might have touched. Signor Bajamonti, having ſaid much to convince them of their ridiculous extravagance, went and took up the dead animal, which they were ſtill ſtaring at with frighted countenances, and ſtept towards them, that they might ſee it was really dead. Theſe two brutes preſented their muſkets to him, and broke out into the moſt injurious terms, and moſt deciſive threats: and it was truly a piece of good fortune that my friend did not throw the dead ſnake at them, as he was going to do, for in that caſe they would undoubtedly have ſhot him. Now was he not in the wrong to be ſo deſirous of Primorian guides for the defence of his perſon? We were told, by way of excuſe for them, that ſuperſtition was the cauſe of all—ſo much the worſe I think; and the excuſe would be equally bad, if ſuch extravagance could proceed from motives of true religion.

Of Meteors in the PRIMORIE.

From the mountain Biocova, as the Primorians ſay, proceed the winds, hail, rain, and every change of weather. The truth is, this mountain is their meteorological theatre. But their moſt diligent and accurate obſervations are thoſe concerning the northerly winds; and I think they deſerve to be inſerted here, becauſe my late friend Count Grubbiſch, aſſured me that he had found them by experience very exact. Before the boreal wind breaks out, if there is any fog upon the Biocova, it is raiſed on high, and torn, and ſcattered a thouſand ways; a roaring noiſe is heard within the mountain, which ſoon becomes dreadfully loud; and the air grows ſharp. If there is no fog upon the Biocova, the clouds equally diſtended over that part of the ſky, and an unuſual coldneſs of the air announce the *Borea*. The ſhepherds ſay, and it ſeems

ſeems demonſtrated by fact, that this wind comes out of the gulphs and chaſms of the mountain. It is certain that it deſcends from the ſummit towards the ſea like an impetuous and ſuddent torrent. The caves of Eolus ſituated in the high mountains, and the ſtorms that precipitate from the heights, according to the ancient poets, ſhew that theſe obſervations have been made of old, by more poliſhed nations. Seneca alſo thought that the winds aroſe from ſubterranean abyſſes, and forced their way through the apertures of the earth. When, by any accident, the woods of the diſtant parts of the mountain are ſet on fire, the boreal winds blow as long as the fire continues, but with moderate force, if the vallies, where the fire is, be but moderately deep; but this occaſions a long drought.

This puts me in mind of what is related concerning the inhabitants of *Segna*, in the hiſtory of the war of the Venetians againſt the Uſcocchi. The writers affirm, that thoſe robbers, by lighting great fires in the woods, or throwing great quantities of burning branches into the chaſms, raiſed the boreal wind, which hindered the enemy's veſſels from coming near their coaſt, and ſometimes was the cauſe of their loſs in that dangerous channel. When a good deal of rain falls on the mountain, there is no *Borea*, or, if it begins to blow, it increaſes in violence only, in proportion as the mountain becomes dry. But if, after a long drought, there falls a little rain, then the *borea* uſually blows; or when that does not happen, it is a ſign that a ſoutherly wind is near. If, after twenty-four hours of *borea*, the ſky does not become perfectly ſerene, it is a ſign that the wind will continue long, or change into a ſoutherly wind or *ſcirocco*. The duration of the *borea* is commonly for odd days; that is, one, three, five, ſeven, nine, to thirteen, and ſometimes to fifteen following days. This wind uſually begins to blow when the ſun or moon riſe or

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ſet. About break of day, and at mid day, it relaxes, and ſometimes ceaſes; or when this does not happen, it is a manifeſt ſign of a long continued violence. There is alſo a kind of periodical *borea*, that generally blows the ſeventh, ſeventeenth, and twenty-ſeventh of March; and that which blows about the feaſt of Pentecoſt is ſtill more conſtant, and therefore has the name of *Duhovcizà*. They pretend, that if the *borea* proves mild at that ſeaſon, it will be ſo throughout the whole ſummer. When this wind is moderate, it is thought uſeful, and even neceſſary; eſpecially after the vines and olives have been in bloſſom, becauſe it carries off the dried flowers quickly: it is alſo beneficial to the vines, when they have ſuffered by too much humidity. But it is, for the moſt part, deſtructive to man, by cauſing pleuriſies, and malgnant fevers; and the intenſe cold it produces, is often fatal to ſmall cattle feeding on the mountain. The fiſhermen ſay that it drives off the coaſt the *maſſe*, or ſwarms of emigrating fiſh; and when it rages in all its fury, it tears and breaks plantations, plucks up trees by the roots, dries and pulveriſes the earth, then carries it away through the air, or leaves it weakened and deprived of vegetable force. Sailors are afraid to truſt themſelves by night in the channel, between the *Primorie* and the iſlands of *Brazza* and *Leſſina*, dreading the ſudden fury of the *borea*, which precipitates from the mountain, or iſſues with equal violence from the bottom of *Vrullia*; and hence trade ſuffers much prejudice and interruption.

The *ſcirocco* and weſterly winds reign alſo by turns in the *Primorie*, and conſequently have been ſubjects of obſervation to the fiſhermen and ſeamen. They foretel the *ſcirocco* from the unuſual height of the waters, and northerly winds from their lowneſs, and from the extraordinary rapidity of the currents. The periodical *ſcirocco* blows every year about Eaſter; it brings

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brings heat, but not rain; its ordinary period is of twenty days, and it uſually ceaſes at ſunſet. When this wind does not blow in the manner and at the time above mentioned, the ſummer is almoſt free of weſterly winds, whirlwinds, and ſtorms. But the *ſcirocco* is prejudicial to plants, drying and burning up the buds; though it hurts not men any otherways than by cauſing an extraordinary weakneſs and laſſitude; inconveniencies that are fully compenſated by a plentiful fiſhing, and a good crop of corn on the mountain. In the ſummer time, when the weſterly wind ceaſes for a day, it is a ſign of the *ſcirocco* the day following, which uſually begins with a ſort of whirlwind. Theſe whirlwinds are like the ague, for, when not ephimeral, they return the next day about the ſame hour. Perhaps they might be prognoſticated by making obſervations on the motions of the air before and after. They ſay, that ſometime ago, there fell, in the heart of Boſnia, a ſhower of *Sardelle*, to the great terror and contrition of thoſe poor Turks; if the fact is really true, it muſt be attributed to ſome *typhon*, or hurricane, of which there are many examples.

When it lightens in ſummer with a ſerene ſky, it preſages long drought; but if the lightning proceeds from a thick cloud, it indicates a ſtorm of wind and impetuous rain. In winter, the lightning, which is frequent on the other ſide of the Adriatick, preſages wind from the point oppoſite to the lightning. There ſeldoms falls much rain after the loudeſt claps of thunder, and there is a Dalmatian proverb to this purpoſe; *Kad vechie garmi magna daſgia pade*; the more thunder the leſs rain.

The rainy ſeaſons in *Primorie*, are in the beginning of autumn, and in the end of winter. But if the winter and ſummer happen

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happen both to be rainy, all their products miscarry. In rainy summers, there falls, when the nights are clear, a reddish dew, which is very observable, especially to those who are at sea; and they pretend that this dew blasts the vines.

Snow and ice do not last long in Primorie, not even on the top of the *Biocova*, though beyond that mountain, and among the rocks of mount *Mossor*, they sometimes continue from one year to the other. When there falls much snow, there is plenty of all products, but especially of oil, and the more, if it falls early in the season; but the cold when late, does great damage, as it nips the juices of the plants in motion; and the smaller cattle are also much hurt by it. The cold indeed is never very sharp in those maritime parts, except when the *borea* blows, and without that, the month of January is as warm as April with us. The whole summer is generally hot to excess, and in the month of September, I suffered rather more by the heat of the air, than ever I had done in Apulia. Hail is less frequent, and smaller than in our part of Italy.

Of the Sea on the Coast of PRIMORIE, *its Level, and concerning the Fishing.*

In the tour which I had the honour to make with your Lordship, I thought I saw, in several places, constant and clear indications of the rising of the level of our Adriatick; of which rising, from the Roman to our times, both Manfredi and Zandrini were persuaded, though now it is denied by some, without any reasonable foundation, but rather in direct opposition to facts; and by others it is calculated in a less satisfactory manner than perhaps it might be. This is not a proper place to enumerate

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merate the obſervations which the city of Venice furniſhes in favour of this riſing of the level. But it is well known, that the government is under the neceſſity, year after year, of heightening the ſquares which convey the water to the publick ciſterns; becauſe, ſince the XVI century, in which moſt of them were repaired, the ſea roſe above the pavements at high tides. The waters have alſo found their way into ſeveral churches there, though they certainly were built in ſuch a manner as to keep the faithful on dry ground. The large ſquare of S. Mark, notwithſtanding its having been raiſed more than once, is nevertheleſs every now and then overflowed; and the waters paſſing over their former bounds, do ſometimes conſiderable damage in warehouſes. Theſe manifeſt effects at Venice, the deſtruction of our dikes, the damage done to our *Valli*, or large conſervatories for fiſh, and thoſe of *Comacchio*, by the daily encroachments of the ſea; the evident ruin of the port of Ancona, now no longer reparable at whatever expence, and of the adjoining hill viſibly impaired; the ſubmerſion of the city of Conca, not far from Rimini; the foundations of *Ciparum* in Iſtria, now under water, which was demoliſhed in D C C C; and many other ſimilar obſervations, are at preſent foreign to my purpoſe. I am now only to treat of what regards the level of the ſea along the Primorian coaſt.

On all this coaſt, from the mouth of the Cettina to that of the river Narenta, the ſea has viſibly loſt a part of its ancient extent in ſuperficies. The gravel, earth, and ſand brought down from the mountains by the force of torrents, have filled up the hollows, and of a ſhore, which formerly in all probability did not want harbours, have formed one continued bank without any kind of harbour or bay. The ſea rages now a-

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ganſt this new ground, and goes on corroding it ſo much the more eaſily as the parts are not ſtrongly connected together. And at low water nothing is to be ſeen in theſe places, where the worn ſhore riſes perpendicular, but mountain gravel. The promontories, of which there are ſeveral that ſtretch out from the mainland into the ſea, inſtead of being augmented or ſupported, as would be the caſe if the ſea (as ſome perhaps may think) carried its own gravel to the ſhore, are daily diminiſhing in extent, and becoming rocks under water ſeparated from the mountain.

To theſe general obſervations I ſhall add two particular ones which I took notice of on the ſpot. One was ſuggeſted to me by an inſcription cut on a rock on the ſhore of *Xivogoſchie*, in which mention is made not only of a fountain that now does not exiſt, but alſo of a tract of ground which it watered. At preſent the ſea beats with violence againſt the rock where the inſcription ſtands, and has already, by the reiterated percuſſion of the littoral gravel, done great damage to that valuable monument, which is now not all legible. The land, the garden, or at leaſt the walk that led to the fountain, all which, according to the learned Signor Girolamo Zanetti, belonged to the Emperour Licinian, are all ſunk, together with the fountain, under the elevated ſea.

The river Narenta, and the plain overflowed by it, in which are buried the remains of the *emporium Narona*, furniſhed me with the other obſervation, which is but too applicable to our neighbourhood, where Adria and Ravenna underwent the ſame fate. The waters of the Narenta, retarded in their courſe by the oppoſite increaſing height of the ſea, have depoſited a great number of banks of ſand round about the mouth of the river, ſome

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ſome of which have formed low and marſhy iſlands: but the ſea revenges itſelf daily, for this apparent prolongation of land, by advancing always further up the bed of the river, and by forcing the waters, thereby obſtructed in their free courſe, to ſpread themſelves over the adjacent plain. By theſe means, that tract of land, which was once ſo fertile, and the ſeat of a rich and flouriſhing city, is now a vaſt unhealthful fen, from whence a few poor ſcattered families can ſcarcely raiſe a ſufficient ſupply for a wretched ſickly life. Yet ſtill it would be no very difficult undertaking to reduce that plain once more to habitable and fruitful ground; it would at leaſt coſt leſs trouble and expence than thel ow *Poleſine*, making allowance for the different circumſtances of the ſituation; and by letting things remain in their natural ſtate, the ſea has forced the river to retrocede, and to overflow the land. The lake of Scardona has perhaps alſo been a plain watered by the Tizio, till the ſea beat back the current of that river.

The channel that divides the peninſula of *Sabioncello* from the continent has all the apperance of having been in very remote times the bed of the river Narenta. For the hill which forms that promontory is not of vulcanic origin, ſo cannot be ſuppoſed to have riſen from under ground, or from under water, in its preſent ſtate, but it has been manifeſtly ſeparated from the continuity of the great maſs that froms the continent, as the neighbouring iſlands have alſo been without all doubt. *Torcola*, a ſmall iſland inhabited only by ſhepherds, has a quarry of fluviatile *tophus*, which certainly was originally produced by ſome tartarous river; and in the ſtructure of the ſame iſland other diſtinguiſhable traces ſtill remain of ancient channels. The ſame thing is obſervable on the iſland of *Leſina*, of which I ſhall take notice in its turn.

The depth of the Primorian ſea is unequal, but generally conſiderable in the middle of the channel, which divides the continent from the iſlands, where it ſeems to be above a hundred and fifty fathom. But in the bay of Narenta, and between Sabioncello and Leſina, the depth is much leſs, and the bottom may be ſeen in calm weather. I happened to ſee in the waters of Cape S. George Leſina a thing that may ſerve to give ſome idea of the increaſe or growth of marine bottoms, by the acceſſion of teſtaceous and polypous productions, that form a cruſt there, of which Donati treats in his *Saggio di Storia naturale dell' Adriatico*. That writer thought, after long ſubaqueous obſervations, he might conclude, that the waters of the ſea are raiſed in level in ſome proportion to the height produced at the bottom by the importations of rivers, and by the cruſt juſt mentioned that he had found in various places, and eſpecially under the deepeſt water. I ſhall forbear to examine whether, in reality, the height of the bottom can contribute to the height of the waters of a ſea that receives them from the ocean, from whence it ſhould ſeem that ſo much the leſs water would come in proportion as the bottom of the recipient became higher; and I will only ſay ſomething relative to the cruſt. This does not at all ſeem to be produced in every place, for on ſome bottoms no ſuch thing is ſeen, or can be extracted by any inſtrument whatever; and in others there is very little. Without the Cape of S. George already mentioned, in no great depth of water, there is a heap of ancient urns, which muſt have remained in that ſituation fourteen ages at leaſt: many of theſe urns are alſo ſcattered at a diſtance from the larger heap, two, three, and four together. They are not quite buried; on the contrary, more than the half of their body may be ſeen, and they might be taken up with little trouble and expence. They are above a foot in diameter, and about

three

three feet high; and many of them bear the name of the maker in good legible Roman letters. It ſeems probable that ſome veſſel loaded with kitchen furniture has been ſhipwrecked there. However the revolution of ſo many ages has not hid them under the cruſt of marine recrements obſerved by Donati; nor does the thickneſs of the cruſt on them exceed half an inch, though they are coated with it both within and without. That cruſt, therefore, is certainly not ſo univerſal as Donati believed, or pretended to believe; neither is it formed ſo quickly as ſome perhaps imagine; and hence the riſe of the bottom of the ſea cannot be very conſiderable. It is alſo probable, and agreeable to the laws of nature, that the depoſitions of rivers and torrents are lodged at no great diſtance from their mouths, from whence enſues rather a prolongation of continent than any obſervable change in the bed of the ſea. Theſe prolongations of littoral ground would produce, no doubt, as well as a quantity of additional matter at the bottom, an elevation of the level of a lake; but it does not appear to me that either or both theſe can have the ſame effect on our ſea, which communicates with, and is levelled by exterior waters. But as the riſe of the level ſince the times of the Romans is an indiſputable fact, of which, beſides thoſe mentioned by me, Donati has given many proofs, we ſeem to be under a neceſſity of attributing it to ſome greater and more univerſal cauſe. The ſubſidence of the earth, by which ſome ingenious men have endeavoured to explain this phenomenon, does not ſuit well enough with places of a marſhy ground, and thoſe of rocky bottoms, to admit of equal effects. And it would be very difficult to reconcile this hypotheſis to Venice, for example, if it muſt be ſuppoſed that all the buildings ſubſide equally, though not all of the ſame date, nor built on the ſame kind of foundation.

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I know not the manner of action of the ſea around your iſland in parts at a diſtance from the mouths of rivers, or torrents, from which it does not ſeem reaſonable to draw any concluſion, becauſe the extent of the land is too viſibly partial. But I know that in the Baltic, if we believe the teſtimony of Celſius, Dalin, and the celebrated Linnæus, the dry land is expanded, and the ſea retires, manifeſtly ſubſiding in its level; though by a ſtrange fatality, the theologiſts of the north choſe to interfere in this buſineſs (and yet they ſpeak ill of ours for meddling with ſuch matters) and made ſo much noiſe in contradicting what the above-mentioned obſervers had aſſerted, that one knows not what to believe. But I have ſuffered myſelf to ſtray far enough from the *Primorie* without thinking of it; let us therefore leave thoſe gentlemen to diſpute as long as they pleaſe, and we will return to our waters.

The fiſhing of *ſardelle* and mackrel, is the moſt plentiful of any on the coaſt of the Primorie. They catch theſe fiſh in the dark nights, and decoy them by means of lighted boats, which carrying at the prow, bundles of burning juniper or pine, and rowing towards the ſhore, great number of fiſh follow them into the nets. Each of theſe nets, which are called *da tratta*, require three boats; one larger, that carries the *tratta*, and two others furniſhed with faggots, by the light of which the fiſh are enticed into the nets. Every *tratta* has thirteen men, who become good ſeamen after a few years of that exerciſe, whereby they are often expoſed to combat with ſudden ſtorms, or to overcome, by the force of oars, the obſtinacy of calms, currents, and contrary winds. In former times, the art of fiſhing flouriſhed in Dalmatia; but ever ſince the produce of it has been, through private intereſt, delegated to ſtrangers, it is on the decline.

Among

Among other impediments to the propagation of the fiſhing, the ſcarcity and price of faggots is become one; for as they, excluſively, make uſe of juniper and pine to illuminate their boats, theſe two kinds of wood are now almoſt totally exterminated from the littoral mountains, and ſmall iſlands. An eaſy remedy might be found for this inconvenience, by ſubſtituting a well contrived lantern, like thoſe uſed by the French fiſhermen in the Mediterranean, who alſo fiſh for *ſardelle* and mackrel in the night. This remedy would ſave no inconſiderable part of the expence neceſſary for a *tratta*, and fewer hands would alſo be required; a material article in a country ſo thinly peopled as Dalmatia.

The ſeaſon of fiſhing for *ſardelle* and mackrel begins early in the ſpring, and continues all ſummer, and a good part of the autumn, excepting a few nights before and after full moon, which are too light. The fiſhermen pretend to have obſerved, that the ſhoals of both the above-mentioned fiſh come from the middle of the gulph, and loſe themſelves in the channel of *Primorie* ſeeking paſture. They alſo add, that the food of which they are particularly fond, is certain kinds of the *ortica marina*, called by them *klobuchi*, or little hats, which drove by the wind, come floating to the ſhore: the mackrel and *ſardelle* purſue them greedily, ſhewing particular eagerneſs to feed on theſe and other congenerous gelatinous animals, of which a great variety is often found in the nets. But it is very difficult to obſerve them, becauſe, when out of the water, they are eaſily diſcompoſed or diſſolved. Theſe emigrating fiſhes feed alſo on an inſect called *morſka buha*, or ſea flea, which reſembles this *oniſcus aſſellus* of Linnæus, and ſwims about in ſwarms, as does a ſpecies of *ſcoloperdra*, little more than an inch and a half long, known by the fiſhermen by the general denomination of *gliſtine*, or worms, and

and ſometimes by that of *gliſtine ſtonoghe*, or worms with a hundred feet. Theſe poor inſects in the night time, when the weather is calm, diſplay a very bright ſilver light, which probably is the cauſe of their deſtruction. I have ſometimes beheld them with great pleaſure moving about in ſhallow water in the dark nights of ſummer.

Beſides the two kinds of fiſhing mentioned, and the *tratta*, or drag nes, they uſe other nets for catching the *ghirize*, a ſmall fiſh of little value, and uſed by the poor people only for food, or by the fiſhers of *muggini* for bait. The *ghirize* fiſhing continues almoſt all the year; but that of the *muggini*, only during the autumn on the coaſt of Primorie. Thoſe fiſhes, in great rains or boreal winds, ſwim in ſhoals about the mouth of the river Narenta, where they meet for copulation. The Primorians fiſh for the *muggini* with one boat and nine men, by day light; two ſentinels are placed on ſome eminence on the ſhore, to obſerve, by the motion of the water, from what part the ſhoals come, and to advertiſe the people in the boat, who dexterouſly throw their net in the proper ſituation and moment. This fiſhing, though of ſhort duration, is generally ſucceſsful, and frequently the boats return home quite full, in a few hours. The Primorians generally open and ſalt the *muggini*, as the cuſtom is at Comacchio; but the fiſh is larger in Dalmatia; and at Macarſka particularly, they extract the ſpawn, which being dried in the ſun, keeps long, and is a delicious morſel. They are, by nice palates, reckoned even more delicate than thoſe of Greece, though not ſo large.

It is not eaſy to calculate the quantity of ſalted fiſh circulated annually by the Primorians; that buſineſs being on a very bad foot-

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ing over all Dalmatia, as it is alſo in other places where the conſequences of fiſhing are much more worthy of conſideration. It is, certain that the inhabitants of Macarſka, though in reward of their ſpontaneous dedition they enjoy ſeveral privileges in ſelling their products at Venice, generally content themſelves to ſell their ſalt fiſh to the ſubjects of other ſtates. They ſay, they have been taught by experience, and find that it turns more to their account, to treat with merchants of the Neapolitan or Papal ſtates, than with ours. They alſo ſay, that within theſe laſt twenty years, the fiſhing is greatly diminiſhed, and that the profits are now hardly equal to the charges. I can ſcarcely believe however, that a real ſcarcity of fiſh is the cauſe of this, or that they do not come in equal plenty as formerly, to ſeek for food in the channel of Primorie; though that is not at all impoſſible, and may perhaps be owing to the deterioration of the ground or bottom near the ſhore, by the quantity of earth of diſagreeable taſte, and of barren gravel brought down by the waters from the mountains ſtript of woods. Yet it ſeems more probable, that the general and progreſſive decay of population in Dalmatia, is the principal cauſe of the decline of the fiſhing. Neceſſity obliges them to diminiſh, year after year, the number of fiſhing boats, and that, of courſe, leſſens the number of bold fiſhermen who have courage to beat the ſea, and to catch the fiſh even in cloudy nights, as they uſed to do formerly. It would be not only uſeful, but neceſſary to promote this buſineſs by proper encouragements, and thereby to increaſe the number of fiſhers to ſuch a degree, as to incommode one another. The national marine would gain much by ſuch a plan, beſides the augmentation of the product, and the advantages of trade that might be derived from it. Your nation, my Lord, affords a grand example of the importance of fiſhing to a maritime power. It

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is true, that in the Adriatick we have no whales to encounter, nor the immenſe ſhoals of polar fiſhes that fill the northern ſeas; but it is alſo true, that our navigation is not uſually directed to America, nor to China; and therefore a fiſherman accuſtomed to beat our ſea in all weathers, becomes an excellent mariner for all our occaſions.

The common fiſhes of thoſe waters which wander alone, or at leaſt not in ſhoals, ſuch as *dentici congri, orate*, and others, are alſo caught by night, with illuminated boats; and the Primorians are wonderfully dexterous in ſtriking them with the *foſcina*, which is a long wooden lance, armed at the end with a ſort of iron comb, of which the teeth are made after the manner of a fiſh hook. The *tonni palamide, lizze*, ſword fiſh, and *goffi*, are alſo frequently ſeen at the tables of Macarſka.

The dolphins, and *turſioni*, which are of the ſame *genus*, wander with full liberty in thoſe waters, as no body hitherto has thought of drawing advantage from this ſmall ſpecies of the *cetacei* of our ſea. The Dalmatian fiſhers have a kind of friendſhip and gratitude to the dolphins, giving them the merit of chaſing the fiſh towards the illuminated boats, whither they are furniſhed with nets or the *foſcina*; and in the laſt caſe, the fiſhermen do not fail to throw ſome large fiſh over-board to the dolphin, as if to ſhare the booty with him. If I had had time and opportunity, I would have endeavoured to convince ſome fiſhermen, leſs unreaſonable than the reſt, of the damage that theſe voracious animals actually do to the fiſhing, and of the advantage that might be derived from ſalting their fleſh, and melting their fat into oil.

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The *Phocæ* rarely appear in the channel of Primorie, though they are frequently ſeen near the mouth of the Narenta. They love the grounds that are interrupted by rocks and ſmall iſlands, on which they go often out of the water to enjoy the open air; and hence they are frequently met with on the coaſts of Iſtria, and among the iſlands of the Quarnaro.

The inhabitants of the ſea coaſt attribute to this amphibious animal a great propenſity for grapes, and poſitively affirm, that it uſes to land in the night time, and eat the bunches of grapes from the vines in the proper ſeaſon. There are three ſorts of poiſonous or hurtful fiſh, that are often found in the fiſhing nets; the *colombo*, or dove-fiſh, called in Sclavonian *xutuglia*, or *xutizza*, on account of its yellowiſh colour; it is the *paſtinaca marina*, the *park*, or ſpider, and the *ſcarpena*, or ſcorpion fiſh. The poiſon of theſe fiſhes lies in the puncture of a ſharp pointed bone on their backs, and which the fiſhermen ſhun with great care. But if, notwithſtanding their precautions, they happen to be pricked, they apply, for the wound of the *ſcarpena*, the gall of the animal itſelf; and for that of the *pauk*, and *xutizza*, the white gall (as they call it) of the cuttle fiſh, in their dialect *lighgna*, or *oligagn*, almoſt according to the Latin. But the beſt remedy of all is, a ſtrait bandage on the part offended, and an inciſion by which the poiſoned blood runs out. The torpedo is very common in thoſe parts, and is called *Trnak*; the numbneſs of the foot or hand, occaſioned by touching it, does not uſe to continue long, or to have any conſequence.

The ſhell fiſh of this ſea form no remarkable article either in regard to variety or beauty. The *Pinnæ*, which in ſome places of a muddy bottom grow to the length of two feet, give a bad

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kind of pearl of a leaden colour, and that kind of ſilk of which your Lordſhip has ſeen ſome manufactured in Dalmatia. Yet a naturaliſt, who choſe to employ himſelf entirely in the ſtudy of ſhell fiſh, and Zoophytes, would find ample proviſion for his curioſity in the bottom of the Adriatick, and might collect together a great number of good obſervations, in which, to ſpeak plainly, Marſigli and Donati did not proceed very far. The ſtoney and woody labours of the Polypi are certainly very numerous and various in theſe ſubaqueous depths, and now and then ſome pieces of Madrepores and coral are found in them. The coral fiſhing has been for ſome years paſt on the decline, perhaps through negligence, on account of a ſeries of unfavourable combinations that have diſcouraged thoſe who farm it.

Concerning the Villages along the Shore to the eaſt and weſt of MACARSKA.

At the little village of *Brella*, which ſtands on a height by the ſea ſide, near the *Vrullia*, which is probably the *Peguntium* of the ancients, and the *Berullia* of Porphyrogenitus, the territory of Macarſka begins. The ſmall extent of ground, that lies between the foot of the mountain and the ſea, forming a narrow ſtripe along the ſhore, and alſo the contiguous hills, are very ill cultivated; the greateſt part is left for paſture, though it might be employed to much greater advantage by planting vines. It is true, the nakedneſs of the mountain above it juſtifies, in ſome meaſure, this neglect of the littoral ground. Yet notwithſtanding the too frequent blaſts of the *Borea*, all the Macarſkan *Primorie* bears olives, vines, and other delicate fruits very well; and ſome of the laſt are now beginning to be introduced after the example of the Poglizani, who cultivate them in

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in their diſtrict, and form an article of trade, though they have not yet acquired the knowledge of meliorating the ſpecies by means of grafts. They however have excellent *Maraſche*, a kind of cherry, the nut of which gives a particular flavour to the ſpirituous liquor known by the name of *Maraſchino*, of which a great quantity is diſtilled in Dalmatia, and eſpecially at *Zara* by the Signori Carſeniga.

Next to the olive and vine, the fig and almond trees yield the moſt conſiderable produce in that diſtrict. The culture of the two firſt kinds is not generally well underſtood there; for in one ſmall field they uſe to plant, without any order, olives, figs, and almonds, among the vines; theſe laſt are planted at the diſtance of two feet one from the other, and the ſprigs are left to ſpread on the ground without any ſupport. The yearly produce of the vines does not amount, one year with another, to above four *per cent*. the neceſſary charges deducted. The age of the vine does not exceed thirty years; but the aſſemblage of ſo many trees, which draw their nouriſhment from the ſame ground, cauſes it to decline much ſooner; and ſo much the more, becauſe it gets no manure, in conſequence of the ſavage method of thoſe people of never houſeing their cattle, and of the ſcarcity of fodder. When the vines are exhauſted, it does not anſwer to plant new ones under the ſhade; nor, on the other hand, does it turn to account to root out the fruit trees. The Primorians, in this caſe, uſually ſow the land, and the time and labour they employ is generally ill repaid by the crop. Their plows are ſuited to the ſmallneſs of their oxen, and go to very little depth in the ground. This ignorance in agriculture is general, leſs or more, over all the province, and hence the people, after much hard labour, is reduced to live ſome months

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every year on wild roots, for want of other provision. All the villages of the Primorie are well ſituated, and both the air and water are excellent. *Baſt*, which is built on a hill, has its water from a ſpring near the ſea, which gives the name of *Baſka-voda* to a little group of cottages on the ſhore. About this ſpot inſcriptions, and other ſtones cut in ancient times are dug up. A pilaſter that had been found there lately furniſhed me with matter for obſervation. It is of calcareous ſtone compoſed of marine fragments eſpecially of *Petrobrii*, and bones or ſhells of *Echini* petrified; a bituminous fluor, that probably inſinuated itſelf before the ſtone became hard, has given it a dark grey colour. Thoſe who dug up the pilaſter, on ſtriking againſt it with their ſpades, felt a ſtrong ſmell of pitch; and hence they brought me to ſee it as a curioſity. I cauſed ſeveral ſplinters of it to be knocked off, and they ſent out a very ſtrong ſmell, nay they actually exhale ſtill when I rub the one againſt the other.

The hills of *Baſt* flank the roots of the mountain *Biocova*, and extend all along behind the town of Macarſka, always cloſe to the mountain. On theſe hills ſtand the hamlets of *Velo berdo*, *Macar*, and *Coteſina*; from the two laſt of which ſmall ſtreams of good water run down, and, after a ſhort courſe, fall into the ſea. The maps of Dalmatia confound all the ſituations hereabouts, and corrupt the names of places ſo ſtrangely, that it would be tedious to take notice of them in detail; your Lordſhip may more eaſily compare them with my topographical map, rectified, I may ſay, foot by foot along all that ſhore.

In the ſmall village of *Tucepi*, by the ſea ſide, is ſituated the pleaſant villa of the Abbè Count Grubbiſich, a learned, uſeful and hoſpitable philoſopher, whoſe untimely death is juſtly lamented

mented by all who knew him. He had formed the deſign of reforming, by his own example, the ill underſtood huſbandry of the Primorians; and would certainly have ſucceeded had he enjoyed a length of life proportioned to his merit. Count *Grubbiſch* began by ſtudying the climate of the country, and the nature of the land; and in conſequence of long and reaſoned obſervations had determined on a new plan of cultivation. The vines of his poſſeſſions at *Tucepi*, on the ſides of the hills, were raiſed three feet from the ground, and faſtened to ſmall poles planted longitudinally, like hedges, tranſverſe to the reigning wind, which is the great impediment to high plantations in thoſe parts. Convenient ſpaces were left between the rows for ſowing corn, in order to draw two products at once from the ſame ground without exhauſting it. The grapes ripened better, were in greater plenty, and of a more perfect quality; and the vines, being pruned after the manner of thoſe on the hills of Italy, promiſed a longer duration. The fruit and mulberry trees were diſpoſed round the cultivated fields, ſo as not to hurt the corn or vines by their ſhade. He planted the olives by the ſides of the paths without the fields, having obſerved that they ſucceed better there than when ſurrounded by other trees. The dry walls by which the land of *Tucepi* is ſuſtained reſemble the beſt contrived in Tuſcany, or the Vicentine territory, from whence alſo the Abbe Count had taken his plough ſuited to the hills, with four wheels, and drawn by four oxen; very different from the manner the Primorians, who only ſcratch the earth with a very light plough without wheels, and drawn by two little animals.

To ſecure his experiments againſt all exception, he had choſen a ſituation much expoſed to the wind, ſubject to other diſadvantages of climate, and of an untoward ſoil; knowing very well

well that the ſucceſs of trials made in places near the water, covered from the winds, and of a manageable ſoil, is attributed to theſe favourable circumſtances, and not to the ſkill of the cultivator. My judicious friend was deſirous that Agriculture ſhould be treated by the poſſeſſors of land, in the way of fact and experience, and not by deductions, conjectures, and compilations of thoſe who have not the practical part before their eyes; hence he did not much eſteem periodical papers that treat on this ſubject; and diſregarded all experiments, unleſs when made in the open fields. According to his mode of thinking, as Alpine plants tranſported into a botanical garden ought not, for medicinal uſes, to be preferred to thoſe gathered on the mountains; ſo experiments made on lands incloſed, prepared and watered, are of little conſequence, unleſs they ſucceed in large open fields, or on hilly ground.

The hills of Primorie are partly rocky, and partly cultivable, yet there is need of much induſtry and fatigue to reduce theſe laſt into culture. Beſides the cretaceous and clayey lands that are capable of improvement, there are certain ſtoney ſtrata of the ſame nature, which being dug up, and expoſed to the action of the ſun and rain for ſometime, become a very good ſoil for vines, but unfit for olives or grain. This kind of earth, which moulders into very ſmall rhomboidal parts, is called *Bigar* by the Primorians. The cretaceous earth of a blueiſh colour is ſometimes mixed with very minute ſand of torrents, or with a whitiſh earth proceeding from the diſſolution of calcareous marble; in which caſe it bears a good crop of corn if not ſcorched by too dry a ſummer. The ſtone moſt common in theſe hills is the whetſtone, called *Bruſniza* by the inhabitants, in which ſometimes fragments of marine bodies are diſcovered, and ſometimes

times none. The quality of this ſtone is obſervable, it being, for the moſt part, ruſty without, and almoſt always of a blue colour within; thoſe who build on the brink of the ſea, chuſe it for the foundation before all others. There are alſo ſome ſtrata of *Albereſe*, a ſort of limeſtone, and various kinds of marble; among which is a maſs of beautiful red *Breccia* on the lands of Count *Grubbiſich*. In aſcending the beds of the torrents near the pleaſant villa where I was lodged, among the banks of my good friend, I collected ſeveral varieties of aggregate ſtones. The clefts made by theſe eventual waters are not deep enough to give any preciſe idea of the internal ſtructure of the hills, their beds being generally flanked by matter brought down in ancient times from the mountain, before the torrents were reſtrained by men within a fixed courſe. Near the church of the *Madonna di Tucepi* I collected a very curious ſpecies of white marble all tinged with red ſerpentine lines running almoſt all regularly in the ſame direction.

Near that country church, which is ſurrounded by its ſacred wood, there are many ancient Sclavonic ſepulchres, without any inſcription, but with various baſſ-reliefs. The tomb ſtone of one of theſe has a warriour ſtrangely clad. On his head is a ſort of cap, and above that is raiſed a very ſharp cone; from which ornament perhaps the tradition is derived, that under this ſtone the bowels of a Doge of Venice, who died in war againſt the Narentines, were buried. This Doge might have been Pietro Candiano, who died in an expedition againſt the Narentines near a place called *Miculo*. But the tombſtone, of which I took a drawing for curioſity, appears to be Sclavonic, and the ſharp pointed cap is alſo Sclavonic, as may be ſeen in the ſeal

of

of a Diploma of King Dabiſcia, which ought to be among the papers of my deceaſed friend.

Inſcriptions, both Roman, and Greek, have been found near the village of *Tucepi*, but they have been tranſported to Italy. It is probable that, in the diſtrict called *Javorae*, the *Laurentum* of Procopius was ſituated, as the ſignification of both words indicates equally a place planted with laurels. Natural caverns are very common in theſe parts, and, almoſt in every village, ſome of them are fortified with walls, and ſometimes with a kind of ſmall caſtles of barbarous ages and architecture. It is probable that in former times they ſerved as retiring places to pirates, as they afterwards did for refuge to the inhabitants againſt the robberies of the *Uſoccbi*.

Three ſubmarine ſprings are to be ſeen near the ſhore of *Tucepi*, which no doubt are ſupplied with water, either by the large reſervoirs on the other ſide of the mountain, or by ſome of thoſe rivers, which, not finding their way to the ſea, ſink into the abyſſes. One of theſe ſprings is called *Smerdagliac*, i. e. *ſtinking*, on account of the fetid ſmell, which, as the inhabitants ſay, it uſes to ſend out. The lands in the neighbourhood are called *Pakline*, or places abounding with pitch. They ſay that the ill ſmell of this ſpring is not conſtant, and we riſk not much by taking their word for it. This is certainly fact, that the ſpring *Smerdagliac* is not always perceived to bubble up ſetting in motion the ſurface of the ſea; it ſometimes remains quiet whole days; frequently appears and diſappears more than once in one day. The copious rains on the other ſide of the mountain, and the ſubterranean windings through which thoſe waters muſt find their way to the ſea, are perhaps the cauſes of

this

this inconſtancy: and the bituminous ſmell may perhaps proceed from ſome ſubterraneous fire, or fermentation, ſometimes more and ſometimes leſs violent.

Not far diſtant from *Tucepi*, the village of *Podgora* is ſituated on an eminence, and commands a very beautiful tract of littoral country, the moſt fertile, and beſt cultivated in thoſe parts. The ſmall promontory of *Dracovaz*, that ſtretches into the ſea under this village, merits obſervation. The upper ſtrata that form it, are of *breccia*, and the lower, which are of whetſtone, have veins compoſed of cubick pieces, and placed like a wall. Two of theſe walls jut out encloſing a kind of platform of earth in the middle; the order of the cubick pieces is inclined towards the ſea. Below *Podgora* a little brook ariſes, which, at the end of its very ſhort courſe, turns the mills of *Jarechine*. Perhaps, from this brook, incorrectly marked in ſome chorographical map, Cantelius was induced to place, between *Podgora* and *Draſnize*, a river deſcending from the neighbourhood of *Imoſki*, from whence it is quite impoſſible that the waters could paſs over the mountain *Biocova*. It is very probable however, that from thence proceeds the ſubmarine ſpring called *Vrugliza*, or *Mala Vrullia*, which ſhews itſelf in the bay near *Draſnize*. It riſes very briſkly at the foot of a ſteep part of the hill, from the bottom of the ſea, which, in that place, is conſiderable, and draws a great number of fiſh to it.

I went to *Draſnize* to ſee a Roman inſcription that ought to be there, but was diſappointed by the uncivil Curate of the place, who kept it concealed, for the uſual cauſes of ſuſpicion and ignorance, which are very ſtrong in that country againſt ſtrangers. I was obliged to content myſelf with copying two

Sclavonic inſcriptions, the one for the ſingularity of ſome of the characters, and the other becauſe it indicates the time when the *Herceg* Steffano paſſed through that country.

In the *Primarie* they celebrate the virtues of a ſmall ſpring of water that iſſues from a high rock not far from the church of *Draſnize*, and falls into the ſea after running down the rock. They ſay it is as light and perfect as the water of *Nocera*; and it has been kept in flaſks for many years without ſpoiling. The inhabitants make frequent and ſucceſsful uſe of it in their ſimple medicine. It certainly has the qualities which Hippocrates preſcribes, for it is κυροτατη, και γλυκωτατη, και λεπτοτατη, και λαμπροτατη. It would be well to compare thoſe waters together, with more preciſion, by way of analyſis, and by repeated trials in our hoſpitals; ſince even the article of Nocera water draws no inconſiderable ſum of money out of the ſtate. It is true, that the very name of water of Dalmatia would at firſt have no agreeable ſound in the ears of people of faſhion, but the patronage of two or three phyſicians in vogue might ſoon overcome that prejudice.

Near that ſpring I collected ſeveral adventitious pieces of very fine ſtatuary marble, evidently detached from ſuperior ſtrata at no great diſtance from the ſea, and a beautiful red marble, very compact, of a fine grain, and worthy to be employed in any ornament of the nobleſt buildings.* If the travelling naturaliſt was always furniſhed with the neceſſary means of bringing back to his own country oſtenſible proofs of

* *Calcareus micans, ruber.* Waller. §. 41. 2 c. and alſo *Calcareus æquabilis, incarnatus.* Waller. §. 41. 1 c.

of the uſefulneſs of his obſervations, I ſhould have returned to Venice with ſlabs, or pieces of the fineſt littoral marble, enough to make the artiſts in love with the productiens of that kind within our own ſtate. I would alſo have brought a good quantity of the water of *Draſnize* ſecured in proper veſſels, that our learned and ſincere phyſicians might have made the requiſite examination and trials. But it not being poſſible, with private ſupport, to do all that might be done, I was obliged to content myſelf with indicating the uſeful things I diſcovered, leaving the reſt to time and fortunate accidents.

Not far from the ſpring of *Draſnize* there is a chapel dedicated to *St. Rocco*, where an ancient baſſ-relief was honoured for many years, till, not long ſince, it was ſent to Venice. It repreſented a Satyr half covered with a mantle of goats ſkin, with a ſtaff in his hand, and his dog near him; ſome part of his body appears as of a keeper of gardens. An iron grate placed before it defended it from too profane hands, but did not hinder the good women and girls of the neighbourhood from expreſſing their devotion to their *St. Rocco*. This improper object of ſuperſtition was taken out of its niche in the night time; and the next day, there was almoſt an inſurrection among the people of *Draſnize*, and they could hardly be kept within bounds, when they were told, that their pretended ſaint was carried away by the command of a reſpectable court.

Almoſt all the villages of *Primorie* have ſprings of good water, and ſeveral of them are in great repute for their ſalubrity. This title could not have been denied to the ſpring of *Xivogoſchie*, in the praiſe of which two epigrams, taken notice of before, are engraved on the rock above the ſea; one of which calls the wa-

ter ſalubrious; but now there is no ſpring there. There is ſtill a perennial ſpring at the village, further back on the ſide of the hill, near the convent of Franciſcan friars. There is alſo a ſpring of water at *Dervinich*, where a caſtle ſtood in old times, of which the ruinous walls are ſtill to be ſeen, and where Count *Grubbiſich* copied an ancient Sclavonic inſcription in very neat Cirillian characters. Not far from this caſtle, to the left of the road, on the mountain, there ſtands a large ſepulchral ſtone, ſet on a proportionable baſe, adorned all round with gothic modillons, and in the middle is a baſſ-relief, with ſeveral figures ill deſigned, and, among others, a warriour killing a wild beaſt. This iſolated tomb, contrary to the Sclavonic cuſtom, belongs to the ancient family of Coſtagnich, now ſettled at Macarika. Little more than a mile from *Dervenich* lies *Zaoſtrog*, the Ρχςῶτζα of Porphyrogenitus, where two Roman inſcriptions are to be ſeen in the church of *S. Barbara*. On the brink of the ſea ſtands a convent of Franciſcan friars, who lately, in building their church, have employed a very great quantity of ancient monumental ſtones, and taken care to efface all the characters. They collected them in the neighbourhood, and particularly from the ruins of Narenta; and who knows how many valuable memorials are deſtroyed through their fanaticiſm! Along the ſhore of *Zaoſtrog*, which is without any harbour, and expoſed to all winds, I collected pieces of cretaceous fluviatile *ſtalactites*, with impreſſions of alder leaves, very like that found near Rome on the ſide of *Monte Pincio*, where, in other times, perhaps, the Tiber run. There are likewiſe among the gravel thrown back by the ſea, though originally brought down by the mountain torrents, adventitious pieces of a bituminous ſciſſile ſtone, of thin parallel *laminæ*, of a ſmooth grain, and a very fetid ſmell on being

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being rubbed, which corresponds exactly to the ſwine ſtone of the naturaliſts,* and does not ill agree with the *bitumen marmoreum fœtidum, compactum* of Linnæus. The exterior ſuperficies of the pieces expoſed to the air is aſh coloured, and agrees with Dacoſta's diſcription, but the interior part is black. Along the ſame ſhore I collected petrified *numali*.

From *Zaoſtrog*, to the mouth of the river Narenta, at the foot of the mountain, are the hamlets of *Briſt* and *Lapcagn*; and behind the promontory, within land, the lake of *Bachina* ought to be added in the beſt maps. The mountains, that ſurround this lake, are more rough and ſtoney than the reſt of *Primorie*, yet, notwithſtanding, they were in old times better inhabited than they are at preſent. The ruinous caſtle of *Gradaz*, and the burying place of *Slavinaz*, where probably the *Labienisa* of Porphyrogenitus ſtood, confirm this. They ſay that the *Bachinſko Blato*, that is, the marſhy lake of *Bachina*, beſides eels, which it has in common with other lakes of the country, contains fiſh peculiar to itſelf; but it would be needful to fiſh there more than once, to aſcertain the fact.

Of the Whirpools of Coccorich, *the Lakes of* Rastok, Jezerd, *and* Desna, *and the River* Trebisat.

I ſet out from the convent of *Zaoſtrog* to ſee the temporary lake of *Raſtok*, from which I had read in ſeveral geographers that

* *Calcarius fiſſilis, unicolor, fuſcus*, Wall.
Schiſtus fuſco cinereus, lapis fœtidus dictus, Dacoſta 170. 9.
Lapis ſuilli particulis granulatis (rather *impalpabilibus*) Cronſt. 23.
Bitumen marmoreum, fœtidum, compactum, Linn.

that the river *Norin* riſes, though the inhabitants of *Primorie* contradict that aſſertion. I took the road of *Dervenich*, to paſs over the mountain *Biocova* on horſeback; but it was not poſſible for me to purſue the journey ſo much at my eaſe. The paths of the higheſt part of the mountain run often between craggy maſſes, and ſometimes on the brink of a precipice. Having got over the top of *Biocova*, I continued my route ſometimes a foot, and ſometimes on horſeback, preceded by the guides that the courteous Voivod *Pervan* of *Coccorich* had ſent me. The road which the Morlacchi take on foot, from Zaoſtrog to that inland village, is only five ſhort miles: but they travel with wonderful dexterity, climbing up the ſteepeſt rocks, and deſcending with ſurpriſing agility, from rugged cliffs which ſeem impracticable without wings. I ſpent ſix long hours in paſſing the mountain by a bridleway, and at laſt arrived at the habitation of the good Voivod, who received me with ſincere cordiality. This habitation is built in the form of towers, after the Turkiſh manner: I was lodged in a tower part, from which I paſſed to dinner and ſupper in that of the family. The wife and daughter-in-law of my hoſt appeared to kiſs my hand when I entered, and were ſeen no more till the moment of my retiring from table. The young women of the houſe placed themſelves at the chinks of the doors, to look at me and my draftſmen, as two ſtrange animals both in dreſs and manners. The venerable old man ſat with us at table; and the victuals, dreſſed in the Turkiſh faſhion, were brought in by his ſon. This Voivod is a reſpectable perſon in his ſmall diſtrict, and really has talents without their having been cultivated in a city; in his youth he compoſed many amorous and heroick verſes.

He talked to me of certain whirlpools, from which ſometimes, in the autumn and ſpring, the water iſſues with great violence,

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violence, and in ſuch abundance, that the valley of *Coccorich*, which is at leaſt three miles long, becomes converted, in the ſpace of a very few days, into a deep lake. Pervan's habitation is ſituated on the back of a hill, and the deſcent from it to the bottom of the valley is conſiderable; yet, notwithſtanding this elevation, the water roſe ſuddenly, in one night, to ſuch an extraordinary height, that it gained the ſecond ſtory of the tower where the good old man lay; and it was with difficulty that he could get out on the other ſide. I went to ſee one or two of theſe whirlpools, which all reſemble one another. The bruſhwood that ſurrounds them, is covered with moſs, and black *conferva*, which gives it a melancholy look. The largeſt whirlpool is twenty feet in diameter at the top, and a hundred and twenty deep. In the bottom there is always water; and ſome years ago both the quantity and level of it were aſcertained. They found twelve feet water, and the level correſponded with that of the lake of *Jezero* a few miles diſtant. After the great rains in *Boſſina*, theſe whirlpools, or *Jame* as the Sclavonians call them, throw up columns of water to the height of 20 feet. In 15 days the lake of Coccorich uſes to riſe to its greateſt height, which ſometimes exceeds the ordinary meaſures by new rains, or the melting of ſnow in the inward parts of the country; yet in two months time the ground becomes dry. A prodigious quantity of fiſh riſes out of the bowels of the earth with theſe gigantick fountains; and when the waters begin to fall, the inhabitants catch a great deal with nets adapted to the mouths of the whirlpools. The ſmall depth of earth on the valley of *Coccorich* prevents the air from becoming bad after the waters ſink down again.

A ſhort

A ſhort mile from the Voivod's houſe there is a mine of *Piſſaſphaltus* identically like that of *Bua*. It appears that the Turks worked it before the Venetian arms took poſſeſſion of that tract of country; but it is not likely that they could draw much profit from thence, on account of its diſtance from the ſea, and the inconvenience of the road. The ſubſtance of the marble that forms the exterior ſurface of the hills of *Coccorich*, and *Vergoraz*, is alternatively *breccia*, in ſome parts full of ceratamorphous, and in others of lenticular bodies and *nummali*.

Vegoraz is a wretched fort, that, in other times, defended a village well peopled by the Turks, who notwithſtanding the intermediate mountain, judged it a convenient place for trade, as being at no great diſtance from the ſea; but it is now a heap of rubbiſh, and inhabited only by a few poor families. The fields that lie under the hill of *Vergoraz* are all ſubject to be overflowed, whereby the inhabitants are often reduced to want, and conſequently to the neceſſity of robbing, or of going to work on the Turkiſh lands. A ſuperintendent adminiſters juſtice in that ſmall diſtrict, and is uſually of the family of the *Furioſi* of Almiſſa, which chiefly contributed to take the place from the Turks.

At the foot of *Vergoraz* lies the valley of *Raſtok*, which is very level, and of no inconſiderable extent in length and breadth; the part of it, that runs in between the ridge of *Vergoraz* and the craggy hills on the Ottoman confines, is traverſed by a branch of the river *Trebiſat*, which, inſtead of running towards the eaſt, takes quite a different courſe, and falls in with the roots of the mountains at a place where they form an arch. Meeting with oppoſition from them, and the gravel of an even-

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tual torrent, the *Trebiſat* turns to the left, but inſtead of returning to its natural courſe, it divides itſelf into ſeveral branches, and falls into certain whirlpools, which are open in that plain to receive it. At the time I was there, the waters that uſe to fill the valley of *Raſtok* forming a temporary lake, were all gone; and therefore I was able to examine the river nearly as it was actually falling into thoſe gulfs in ſeveral places. The people of *Kergoraz* have built fences of dry walls at the mouth of the whirlpools of *Raſtok*, and fitted their nets to the remaining apertures to intercept the fiſh that otherwiſe would eſcape under ground. It is plain, that the ill adviſed avidity of thus catching a few fiſh tends to diminiſh the mouths of thoſe drains, and conſequently retards the drying of the overflowed fields, to the great damage of the inhabitants of the diſtrict. Whither, and through what ſubterraneous caverns, theſe ingulfed waters of the *Trebiſat* are conveyed, I know not; but perhaps thoſe who ſend them to produce the river *Norin* twenty long miles diſtant, without even telling us that they make this journey under ground, are miſtaken. In like manner I find in the *prolegomena* of Farlati another falſe aſſertion, regarding the river *Lika*, which diſappears much in the ſame way as the *Trebiſat*. That learned author makes it fall into the ſea near *Carlobago*; though it is a fact that the river *Lika*, ariſing near *Graccaz*, loſes itſelf under ground, at the foot of the mountain *Morlacca*, in the valley of *Cozigne*, a day's journey diſtant from the ſea; and the ſtream *Gaſchiza*, or *Guſchiza*, after paſſing under *Ottacaz*, falls into the gulfs at *Suizza*. It is true, they ſay, that ſome wooden veſſels, carried away by the river *Suizza*, were found in the ſea near the village of *S. Giorgio*, on the channel of the *Morlacca*, where there are ſubmarine ſprings; and they will alſo have it, that the ſubmarine ſprings near *Starigrad* proceed from the ingulfed river *Lika*; but notwithſtanding all this, a geographer ought not to mark the mouths of rivers in ſuch places. Contelius alſo, ac-

cording to this method, might be in the right to put the mouths of two rivers proceeding from the lakes of *Proloſar*, and *Imoſki*, where the two *Vrullie* are ſeen in the ſea; though between the lakes and the *Vrullie*, there are twenty miles of intermediate mountains.

The chain of craggy hills of *Vorgoraz* reaches to the eaſtward as far as the ſources of the *Norin*, and divides the Turkiſh territory of *Glubvſki* from the lakes of *Jezero*, *Jeſeraz*, *Deſna*, and *Bachinſko Blato*. The firſt of theſe, which I viſited, is above ten miles in length, and has ſeveral little iſlands and rocks covered with wood, that afford a pleaſant proſpect when beheld from the tops of the hills. All the circumference of *Jezero* is mountainous; I ſaw it from *Prologh*, where I went to copy ſome Sclavonic inſcriptions. The water of this lake, called *Jezero* by way of excellence, as being the largeſt in thoſe parts, is very pure and limpid. In ſome parts of it the ruins of houſes are ſeen at the bottom; which adds ſome credit to what the inhabitants of the neighbourhood relate, that, in former times, the lake was cultivated fields, and the waters ſunk in gulfs, or ſubterraneous *Jame*, which were filled up by the Turks on their abandoning the country. Yet there ſtill remains one outlet towards the ſouth, where it falls into the cavern of *Czernivir*; and as the people of the country ſay, after running two miles underground, forms the lake of *Deſna*, then it falls into the *Canalnero*, which mixes with the river *Narenta* at two miles diſtance from the ſea. The lake of *Jezero* is however ſometimes dry, and ſhews a rich ſoil to the Morlack huſbandmen, who take advantage of the juncture as well as they can; and the ſame lucky circumſtance ſometimes happens in the valley of *Raſtok*. *Jeſe-*

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raz is a ſmall lake, and remains dry almoſt every year, unleſs when there happen extraordinary falls of rain.

The country that lies between *Vergoraz*, the Narentine marſhes, and the ſea, generally ſpeaking, is little adapted to culture, being alternatively covered with water, and ſtoney hills: but the fields watered by the *Trebiſat*, beyond our confines, are of a very different nature. Yet, through the careleſſneſs of the Turks, they are ſuffered, for the moſt part, to lie under water; for the river has no kind of banks, and is even ſuffered in ſeveral places to be impeded in its courſe in the middle of the plain. The waters of the *Trebiſat* are tartarous, and in places, where it dilates itſelf, the upper ſtratum of the ground is often compoſed of pieces of ſtraws, herbs, and *Nerites*, coated with a cretaceous concretion. I collected ſome for curioſity while my guides were at dinner. On the ſide of this river are large tracts covered with bruſhwood and brambles, through the middle of which the ancient military road lay, that maintained the communication between *Salona* and *Narona*. I went down to the military way to examine ſome old Sclavonic monuments in a burying place that lies near it; but could not look for inſcriptions, becauſe the buſhes grew too thick, and, beſides, my guides would not aſſure me that the Turks, if they happened to meet us, would look on my curioſity without ſuſpicion. The greateſt part of the tombs are enormous pieces of marble, like thoſe on which I had the honour to dine with your Lordſhip and our numerous company of good Morlacchi, not far from the ſources of the *Cettina*. But the baſſ-reliefs of the burying place in the wood, on the banks of the *Trebiſat*, are much more curious than thoſe of *Vrilo-Cettina*.

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Of the Rivers NORIN *and* NARENTA, *and of the Plain overflowed by them.*

After having made a very fatiguing day's journey, I found myſelf, towards the evening, in a corner of the Venetian confines that runs between the rugged marble hills, at the foot of which the river *Norin* riſes, and is left entirely to itſelf from its very ſource; hence a vaſt tract of land is overflowed by it, and encumbered with reeds, willows, and wild elders. A ſmall ſpace of ground only remains dry between the roots of the hills and the marſh, at a place called *Prud*, and that is all covered with pieces of ancient hewn ſtones, fragments of inſcriptions, columns, and capitals, and baſs-reliefs of the beſt age, worn and deformed by time, and the barbariſm of the northern people, who begun on that ſide to deſtroy *Narona*. The inhabitants, who go often to cut reeds in the marſh, aſſured me, that the veſtiges of that large city may ſtill be ſeen under water. It muſt have been extended over the plain a great way, and undoubtedly above three miles in length at the foot of the hills. The ancient road is now under water, and we were obliged to aſcend a very ſteep road, in order to paſs the point of a craggy hill, on which, probably, before the Roman times, thoſe fortifications were erected that coſt *Vetinius* ſo much labour. Along the path are to be ſeen the traces of ancient inſcriptions on the rock. The poor hamlet of *Vido*, now occupies the ſpot where temples and palaces of the conquering Romans once ſtood; and grand veſtiges ſtill remain of baths, aqueducts, walls and noble edifices; even the wretched cottages of the Morlack inhabitants are all built of fine ancient hewn ſtone. Few inſcriptions are indeed now to be found above ground; a great quantity having been tranſported to Italy, to adorn the muſeums of the curious.

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I copied only two, though it is probable there are more that might be copied, and which the malicious lazineſs of thoſe inhabitants prevented my ſeeing. Of the formidable number of Pirates, that, in the middle age, commanded this country, and who at laſt, after long and bloody wars, were extirpated by the Venetians, no monument now remains. Perhaps, indeed, it would have heen in vain to have looked for any although the place they poſſeſſed had been defended from inundations, as thoſe rapacious Corſairs can hardly have been encouragers of arts, but rather deſpiſers of poſterity, as they were of their forefathers.

Some geographers, and Buſching in particular, ſay that the ancient *Narona* ſtood perciſely on the hill where now is *Citluc*, a ſmall fortified place belonging to the Turks; but this is without all doubt a miſtake, for *Citluc* lies eight miles from the ruins of *Narona*, and if there are ancient ſtones employed in its buildings, they muſt have been tranſported from *Vido*. La Martiniere, and ſeveral authors of maps, mark a city by the name of *Narenta* that does not exiſt. The *Norin*, after a ſhort courſe of ſix miles, runs into the river *Narenta*, called *Oronzio* by Porphyrogenitus alone, which, augmented by theſe waters, as well as by thoſe that fall down from the hills *Haxabie*, enlarges itſelf in form of a lake, and afterwards dividing into two great branches, incloſes the inſland of *Opus*, three miles lower down. The water of the *Narenta* is brackiſh about this iſland, and ſometimes there is a mixture of ſea water twelve miles up the river, and beyond the mouth of the *Norin*. The inhabitants, however, drink this water, and very probably that is one of the principal cauſes of the many diſeaſes and infirmities to which they are ſubject. On the iſland of Opus there is a ſmall fortified place with platforms of earth, and near it are two hamlets of Mor-

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Morlacchi which take the name of towns. The Morlacchi of one of thoſe hamlets are of the Greek church. The men dreſt like the other Morlacks; but the women, when in their holiday cloaths, wear a caftan after the Turkiſh faſhion (Pl. XIII. Fig. 11.) I ſtaid ſome days on the iſland of *Opus*, courteouſly entertained by the noble family of *Noncovich*, and with the hopes of being able to penetrate farther up the country to *Maſtar*, in order to take a drawing of the ancient bridge, which gives name to that mercantile city of the Boſnian Turks, *moſt ſtari* ſignifying the old bridge. But the Narentine officer, who had ſolemnly promiſed to eſcort me, broke his word in a ſhameful and inſolent manner. You may well believe, my Lord, that I was heartily vexed at this diſappointment, as it prevented my ſerving your Lordſhip in a matter that I knew would have given you pleaſure.

It ſhould ſeem that the ancient geographers were not well acquainted with that part of Dalmatia, and thoſe of our days certainly are not, as they make ſo many miſtakes about rivers, and the ſituation and names of places. *Scylax Cariandenus*, who is cenſured by Farlati as not exact in deſcribing the territory of *Narenta*, ſeems to me to have had a more juſt idea of it than all the other ancient writers, and infinitely more ſo than all the moderns. He probably never intended to ſay that the river *Narona* proceeded from the lake of *Imaſki*, as Farlati is inclined to believe, but that it came from the overflowed plain called in our days the plain of *Narenta*. His words, tranſlated literally, are as follows: "Next to the Neſtie, (inhabitants of the banks of "the river *Cettina*, and of *Primorie*) is the river *Narona*. The na- "vigation on it is not narrow, as the gallies and other veſſels "ſail up as far as the Emporium, which is ſituated within land, "eighty

A Narentine Young Woman.

A Lady of Macarska.

Jac. Leonardis sc.

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"eighty ſtadii diſtant from the ſea. There, the *Marii*, a race "of Illyrian people, inhabit. Beyond this emporium there is a "vaſt lake that reaches to the confines of the Autariati, an Illy- "ric nation alſo, and in that lake is an iſland of a hundred and "twenty ſtadii, of which the fields are excellent for cultivati- "on. From this lake the river *Narona* iſſues."* If one were to ſay that the text of *Cariandenus* is corrupted, where we read τὸ εισω τῆ εμποριᾳ, and that a reading of contrary ſenſe ought to be ſubſtituted, then the whole matter is adjuſted. The iſland mentioned by him would be that of *Opus*; the extent of which agrees well enough with the hundred and twenty ſtadii; the lake would be found in the ample ſpace occupied by the river, at the place where it divides itſelf to ſurround the iſland. The emporium *Narona* was not above eighty *ſtadii* diſtant from the ſea in a right line; and Pliny was miſtaken in placing it at a greater diſtance. But without altering the text of *cylax*, it may be ſuppoſed, that the lake, of which he ſpeaks, was the plain of *Raſtok*,† and *Trebiſat*, which very well deſerves that denomination in the ſeaſon of the inundation, and which from there lies detached a large tract of cultivable land, that forms at preſent the richeſt part of the territory of *Gliubuſki*. In this caſe, the author muſt have taken the *Trebiſat* for the *Narona*, as the former comes down from thoſe plains, and falls into the *Narenta*. Perhaps alſo the iſland, of which this ancient writer mentions the fertility, is that tract of Narentine land which lies between the *Norin* and the *Narenta*, and which might very well, in ancient times, have been iſolated.

* Scyl. Cariand. *inter Geograph. min. Hudſoni. pag.* 9.

† One might be induced, by the greater analogy of the names, to believe that the Ραστῶτζα of Porphyrogenitus was *Raſtok*, and not *Zaoſtrog*; but as *Raſtotza*, as well as *Macros*, is placed on the ſea ſide, and ſaid to be a place of fiſhing, it cannot reaſonably be taken for *Raſtok*, that lies within land.

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iſolated by a regular communication of the two rivers at the foot of the hill of *Citluc*, where, at preſent, there is marſhy ground, and a canal ſcarcely navigable. If we choſe to go further back, it would be requiſite to examine the high land of *Moſtarſko Blato*, that is, the marſhy lake of Moſtar, from which it may very juſtly be aſſerted that the river *Narenta* takes its riſe.

The banks of this river were, in former times, famous among the profeſſors of pharmacy, to whom Nicander preſcribes to gather the Iris there for the theriaca. And Theophraſtus, cited by Atheneus, gives the preference, over all other countries that produce this plant, to the Illyric mountains at a diſtance from the ſea; which agrees very well with Nicander, underſtanding thoſe mountains from which the Narenta iſſues.* And now I am ſpeaking about the ancients, I think it not improper to add, that at *Moſtar*, and other places of *Boſſina*, the Turks make by the infuſion of honey combs in water, and by means of fermentation, a ſort of hydromel called by them ſcerbet, which correſponds to that uſed by the ancient *Taulantii*, who inhabited the ſame country, and of which the whole proceſs is particularly deſcribed by the author of a little work περι θαυμασίων ακουσματων attributed to Ariſtotle.† Our neighbours the Turks, who would feel the greateſt remorſe if they drunk a glaſs of wine, make

* Athen. Dipnoſoph. Lib. xv. cap. viii.

† "They ſay that the Illyrians called *Taulantii* make wine of honey: they "ſqueeſe the honey combs, after having thrown water upon them; they "boil that till only the half remains; then they put it in earthen veſſels, being "already very ſweet to the taſte; afterwards they put it in wooden buts, and "keep it a long time till it acquires the taſte of good wine. This liquor is both "ſweet and wholeſome. They ſay that the ſame liquor has been alſo made in "Greece, and that it cannot be diſtinguiſhed from old wine. Αριϛ. περι θαυμ. "ακουσμ.

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make no ſcruple of drinking this ſcerbet to exceſs. Nor are they more ſparing in the uſe of *Rakia*, which is a ſpirit drawn from the huſks, after the grapes are preſſed; they have, beſides, various preparations of boiled *muſt*, with which they indulge themſelves abundantly. The Muſcelez, and Tuſſia, are liquors of this ſort, and very apt to intoxicate, but the probabiliſt Turks have made themſelves eaſy on that head. The *Muſcelez*, when old, requires to be diſſolved in ſome other liquor, before it can be drunk, and reſembles ſome of the wines of the ancients.

The large river of *Narenta* is not navigable for barks of great burden beyond the village of *Meriovich*, but ſmall barks and boats go as far as *Pocitegl*, and no farther, as I have been told by the inhabitants. Thoſe writers, therefore, have certainly been ill informed, who believed that veſſels could go up the river as far as *Moſtar*; from whence, were it practicable, the Turks would undoubtedly convey their merchandize by water, which would be much more commodious, and leſs expenſive than the journeys they are obliged to make by land.

The moſt conſiderable article of fiſhing in the Narentine marſhes is eels, which come up the river from the ſea in great plenty. There is perhaps no other place in Dalmatia better calculated for a regular eel fiſhing ſuch as that at Comacchio; and if ſuch a proſpect were properly eſtabliſhed, and well managed, it would doubtleſs keep a conſiderable ſum of money within the ſtate that now anually goes out of it. Beſides eels, there are various other ſpecies of river fiſh caught in the *Narenta*, and ſome of the moſt delicious kinds. Trouts are not rare, and ſometimes they catch ſalmon. Towards the mouths of the river, and about the iſland

of *Opus*, the *Muggini* come in numbers at the ſeaſon of depoſiting their ſpawn; and, if the people had any tolerable degree of induſtry, great quantities might be caught. The boats which the Narentines uſe on their river are exceedingly ſmall, and light. They call them *Ciopule*, the ſame name that is uſed by the Morlacchi of the *Kerka* and *Cettina* for their canoes. The *Ciopule* or *Zopoli*, of Narenta are not made out of one trunk of a tree, but of very thin boards joined together by little ribs on the inſide. There is no difference between the poop and the prow; both are accuminated, and they have no gunwale. The extreme littleneſs of theſe boats, and the very ſmall diſtance from the water in which thoſe who go in them are, frighten a beholder not uſed to ſuch a ſight. The men uſe not oars, but row their ſkiff with certain paddles about four feet long, which they manage ſitting croſs legged like the Turks.

The ſoil of *Narenta*, in the places that are not conſtantly under water, is ſandy, as muſt be the caſe in all lands that are frequently inundated by a river, without any banks, and every now and then ſwelled by mountain torrents. To theſe floods the iſland of *Opus*, which is ſtill ſubject to them, owes an additional height of ten feet between the Roman times and the preſent. An excavation made there in the garden of the Signori Noncovich ſhewed me the different ſtratifications that have ſucceſſively covered the old earth, in which at ten feet depth, are found pieces of broken glaſs, and of Roman kitchen utenſils. Yet the iſland, notwithſtanding its being thus raiſed, is not cultivable every where, many places remaining marſhy, though they might be drained, and rendered uſeful without much difficulty. The great abundance that the Narentine land yields of every kind of product might ſtimulate

ſtimulate the inhabitants to become induſtrious, if their lazineſs were not inſuperable, which is probably a conſequence of the groſs air that ſurrounds and oppreſſes them. Herbage of all ſorts, Indian corn, wheat, and olives in particular, ſucceed to a wonderful degree; and mulberry trees riſe in a few years to a ſurpriſing luxuriance, and the ſilk worms that feed on them make very fine ſilk. The vines alone do not thrive well, and, indeed, it is a wonder they grow at all, as they remain every year ſo long under water, eſpecially in the plain between the two rivers oppoſite to *Mercovich*, a village well inhabited by healthy, laborious and brave people.

Notwithſtanding the fertility of the ſoil, and the convenience of the ſituation in regard to the trade with Turkey, the territory of *Narenta* is very thinly peopled, and very little frequented by ſea-fareing people, who dread the effects of the air, from which, perhaps, is derived the qualification of *Niretva od Boga procleta*, "Narenta curſed by God;" which is become a proverb in Dalmatia. The celebrated Dr. *Giuſeppe Pujati*, who died a profeſſor of phyſick in the univerſity of Padua, publiſhed a treatiſe *de morbo Naroniano*, which is enough to frighten any one who had a mind to go there, eſpecially in autumn. Yet I was actually there in the month of October, ſtaid fifteen days, and by means of very ſimple precautions departed in good health, together with all my boat's crew, who had laboured very hard in coming thither. The water, that ſtagnates in ſome places, becomes peſtilential to ſuch a degree, as to kill the fiſh that ſwim in it; and Pujati aſſures us, that the birds that frequent marſhes, of which there are many thereabouts, often fall down poiſoned by the deadly exhalations. He reckons the Narentine autumnal fevers a ſpecies of plague very difficult to cure.

Every inhabitant of thoſe parts has his little tent to defend him from the gnats, and other troubleſomme inſects while he ſleeps; and people in eaſy circumſtances keep themſelves under a gauze pavilion, even in the day time, during the hot ſeaſon. The number of theſe tormenting little animals was ſo great when I was there, that I was almoſt deſperate. An eccleſiaſtick ſhewed me a ſmall excreſcence that he had on his forehead, and aſſured me that it proceeded from the ſting of a gnat. He is a man of rather an acute underſtanding; and told me, that he ſuſpected that the fevers with which the Narentines are moleſted, might be occaſioned by the punctures of thoſe inſects, who, after having ſucked a putrid fiſh, or quadruped, or perhaps ſome poiſonous herb, come to ſuck the blood of men. It does not, indeed, appear impoſſible that ſome infection may be communicated in this manner; and the conjecture is at leaſt ingenious. Notwithſtanding all this, the unhealthfulneſs of the territory of *Narenta* is not irremediable, and ſome parts of it are already rendered habitable by means of cultivation. If proper encouragement was given to agriculture, and to raiſing corn in particular, there is no doubt but this diſtrict might again become rich and pleaſant, as it muſt have been in ancient times.

The circumjacent hills are, for the moſt part, of marble, of which the organization is the ſame as that on the iſlands. No foſſil curioſities, nor uſeful diſcoveries are to be met with thereabouts, excepting a mine of *Piſſaſphaltus*, that lies at the foot of mount *Rabba*, in the diſtrict of *Slivno*, in *Xaxabie*. I did not viſit that ſpot, nor a quarry of white marble at a place called *Comin* which was indicated to me. The mountainous region is full of caves and gulfs, about which they tell many wonderful

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wonderful ſtories. I had a friar with me in the boat, from whom I was given to hope ſome uſeful information, but inſtead of that, he only told me the moſt fooliſh fables that can enter into a brain vitiated by ſuperſtition. This ſtrange mortal ſwore to the cries of children in the gulfs, and to the dances of fairies in the caverns, as poſitively as if he had ſeen them a thouſand times. He aſſured me that he had, in a particular book of his, a certain benediction, which no fever could reſiſt. On being aſked, why he did not cure all the poor people of the country, and thus make a merit to himſelf both with God and men? he anſwered ingenuouſly, that he muſt be well paid for working ſuch miracles, and did not think it worth his while to meddle with ſuch poor wretches. I was little edified, as you may believe, by this ſincerity, and ſo much the more it appeared monſtrous to me, becauſe his brethren are full of humanity and charity to the poor Morlacchi. It would be tedious and uſeleſs to relate the nonſenſe and falſehoods told me by this fantaſtick friar, relative to the ancient extent of theſe marſhes, and the monuments and inſcriptions to be found in them. I truſted to his information only once, and had cauſe to repent of it. There is alſo a ſmall printed book, which contains many ſilly and apocryphal ſtories about the territory of *Narenta*; I will not ſay that my friar is the author, but whether he is or not, it is a work that neither deſerves to be read nor cenſured.

I left the country of *Narenta*, full of grateful ſentiments to my courteous hoſts, but, at the ſame time, piqued at the uncivility of ſome others with whom I had the ill fortune to get acquainted. Nor can I forget the vexation I felt on being diſappointed of a ſight of the bridge of *Moſtar*. Yet ſtill I hope,

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my Lord, to be able to ſerve you in that article, if ever I return again to Dalmatia, wiſhing to give you frequent proofs of my juſt and unalterable attachment to your Lordſhip, which the continuance of your goodneſs to me renders ſtill more ſtrong in ſpite of time and diſtance.

TO

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TO THE

ABBÈ LAZZERO SPALLANZANI,

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Concerning the Iſlands of LISSA, PELAGOSA, LESINA, *and* BRAZZA *in the* DALMATIC SEA, *and the Iſland of* ARBE *in the* QUARNARO.

THOUGH I am very ſenſible that things begun, and left off before they are half finiſhed, are in general not worthy to be preſented to the Publick, nor to a learned man in particular; and being fully convinced, that my obſervations in Dalmatia, and the numerous iſlands in the adjacent ſea, are defective and unſatisfactory, becauſe I was prevented, by unſeaſonable combinations, from making them more complete, yet I venture to addreſs a part of them to you, my learned and worthy friend, without any apprehenſion of your cenſuring me for temerity, or deſpiſing my gift, ſuch as it is. Experience, I preſume, has ſhewed you, how many unforeſeen difficulties and delays a naturaliſt, who travels among the mountains, often meets with, even when eſcorted by the authority of government; and hence you are better able, than the ſedentary *literati*, to calculate how much time I muſt unavoidably have loſt, through changes of air, inconſtancy of weather, and the ignorance, or diffidence

diffidence of uncivilized men, in a vaſt tract of country thinly inhabited, and far from Italian politeneſs. I may venture to ſay, that the days, thus indiſpenſably loſt, made up more than half of the ten months, which I ſpent in both my tours in Dalmatia; and ſtill I ſhould probably have made amends for this loſs, if, after having ſurmounted a great part of the difficulties, the occaſion of my returning thither had not ceaſed. At any rate, as no body hitherto has given any minute account of that large country, I flatter myſelf, that the little which I have obſerved, will afford ſome pleaſure to the lovers of natural hiſtory.

Of the Iſlands LISSA, *and* PELAGOSA.

The iſland, that in our days is called Liſſa, was known by the ancients under the name of Ισσα, Iſſa. Both the Greek and Latin geographers make honourable mention of it, as a colony of the Syracuſans; and almoſt unanimouſly give it the firſt place among the iſlands in the Illyric ſea; though it is not one of the largeſt. Scimnus of Chio, treating of the Illyric iſlands, begins with Liſſa, though it lies the fartheſt from the Continent; Strabo counts it with diſtinction among the moſt noted; and Agathererus places it at the head of the moſt noble iſlands; nor is there any geographer who does not name it in a diſtinguiſhed manner. Among the Greek poets, Apollonius, the Rhodian, in the *Argonautica*, mentions it with the epithet of δισκελαδος, noiſy, or ill-founding, and joins to it the *deſireable Pythica*, which ſhould not be Leſina, as ſome of the beſt geographers have ſuppoſed, but the ſmall iſland of S. Andrea, which is ſtill covered with wood in our days, whence a reſinous juice is extracted by inciſion. We learn from Lycophron, in his Caſſandra, that Cadmus lived for ſome time in Liſſa, and begot a ſon there.

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there. Almoſt all the Greek and Latin hiſtorians of the firſt order treat fully of this iſland, which, from the remoteſt times, was conſiderable for its maritime force, and its commerce. Of the Liburni, and their allies the Hetruſci of Adria, who, after they had ſettled themſelves there, gave the law to all the Adriatick, there are no very diſtinct accounts preſerved in hiſtory; and we begin to know ſomething about the Liſſani in the xciii Olympiad; that is, at the time when Dionyſius, the elder, made himſelf maſter of the iſland, and ſent a colony of Syracuſans thither; which, in the courſe of time, became independent on the mother-country, and formidable by the extent of its dominions, and the number of its ſhips. The Leſſani had frequent wars with the kings of Illyrium, and were allies of the Romans, by whom they were held in ſuch eſteem, that, on their account, they ſent an embaſſy to Queen Teuta, to deſire that ſhe would ceaſe to moleſt them. The bloody conſequence of this legation ſerved as a pretext for the firſt Illyric war, which brought on all the others, and ended in the conqueſt of that vaſt country. During theſe commotions, the commerce and navigation of the Liſſani began to decline, and of conſequence their power was reduced almoſt to nothing after the end of the Illyric wars. Hiſtorians mention them no more during a long ſeries of ages; and we find only in the middle times that they belonged to the pirates of Narenta. In ſubſequent times, the iſland of Liſſa became dependant on that of Leſina; and never after was in a condition to form a ſeparate body of itſelf. It is only thirty miles in circumference; is mountainous, though not without cultivable plains; the temperature of the air is remarkably happy, and it wants nothing but plenty of freſh water to make it a perfectly agreeable ſpot.

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In ancient times it had two cities, one of which bore the name of the iſland, and the other was called Meo. Some miſerable veſtiges of the firſt ſtill remain above the harbour, which is truly theatrical, and at preſent is overlooked by the village of Liſſa; ſome old moſaic pavements are ſtill to be ſeen, though under water, when the tide riſes. The ruins of the other city are probably thoſe at Comiſa, a populous and cultivated place, that lies near the ſea, on the eaſt ſide of the iſland. There are ſtill to be ſeen two coins of the Iſei, one of which has the head of Pallas armed, and on the reverſe an Amphora; the other has a goat on the reverſe, inſtead of the Amphora. In digging, there are ſometimes found ancient vaſes, reſembling the Etruſcan in the form and varniſh; and alſo ſome Greek and Latin inſcriptions. In this age, a man of great erudition flouriſhed there, of the family of *Caramaneo*, who left many valuable papers, tending chiefly to illuſtrate the hiſtory of his country. This learned man brought himſelf into no little trouble by proving in a diſſertation, that the reliques of S. Doimo, venerated at Spalatro with great zeal, were not genuine. I was only once in the iſland of Liſſa, in company with the Biſhop of Derry, an indefatigable lover of natural hiſtory; we landed, as it were, at a venture, without recommendation to any perſon who could give us uſeful intelligence. Hence we could obſerve but little, and were, beſides, tormented by the exceſſive heat of the ſeaſon, which, however, my Lord, would not have minded, if there had been a view of making intereſting obſervations.

The organization of the iſland of Liſſa, is principally of marble. There are ſome *Orthoceratites* in the common marble, which is found in the lower ſtrata, and in the upper ſtrata, are *Namiſmales*. This law, however, is ſometimes inverted. Among the

the ſpecies of ſtones that are obſerved along the ſhore of Liſſa, there is a ſlaty marble of very thin ſtrata, and a whitiſh calcareous ſciſſile ſtone, not very fit for economical uſes, as the *laminæ* are irregular and brittle. Foſſil bones are alſo found petrified in the ſame ſubſtance, which is ſeen in various places, in the iſlands of Oſero, and Rogoſniza. Abundance of them are met with in the vertical chinks of the ſtrata, in the ſmall valley of Ruda; and the inhabitants told us, that ſtill greater plenty is found in a rock not far from that valley, called Budicovaz, as well as in other parts of the iſland.

Donati, in his *Saggio d'iſtoria naturale dell' Adriatico*, writes, that he found in the ſea near Liſſa, a ſpecies of ſerpentine marble; but does not tell us whether it was ſome adventitious piece, or really of a local quarry. In that part of the iſland which I ſaw, there is no appearance of Vulcanic eruptions, from whence a probability might be deduced of finding ſerpentines, or other kinds of marble produced by fire. We ſaw ſeveral pieces of lava ſcattered on the ſhore of Liſſa, and being newly come from Veſuvius, we flattered ourſelves with the hopes of finding ſome extinct Volcano on this iſland. The inhabitants aſſured us, that, at a place called Porto Manica, the ſea threw out nothing elſe but black ſtones; we went thither, croſſing over the iſland on horſeback, and found all that had been told us quite falſe. We concluded therefore, that the vulcanic ſtones we had ſeen at Liſſa were not indigenous; yet, afterwards, they wanted to perſuade us, that a rock, near Porto Manica, was altogether compoſed of black ſtone, like the accidental pieces we had ſeen; but we found no boat to ferry us over; ſo we remained with the probability only that this ſtory was a ſecond fiction. In traverſing the iſland, we ſaw nothing like fine mar-

ble; but no doubt there is compact *breccia* in the internal parts of the hills, as well as the rough and ignoble ſtone on the outſide. The ſoil is reddiſh, and ſtiff like clay, ſaturated with iron ochre; but on the heights, the ground is ſandy and gravelly.

The moſt celebrated produce of this iſland in ancient times, was wine. Atheneus makes honourable mention of it, on the faith of Agatharchis, who preferred the wine of Liſſa to all others. "In Liſſa, an iſland in the Adriatick, ſays Agatharchis, there grows a wine, which, compared with any other, exceeds it in goodneſs." In our days, the wine of Liſſa is of a very different quality; either becauſe they have not the art to make it, or becauſe the ancient ſpecies of grapes are loſt thro' time. The ſoil, as well as the ſituation are both well calculated for any produce; vines, olives, mulberry trees, almonds and figs, grow there in perfection. The quantity of ſweet herbs on the hills of Liſſa, renders the honey of an excellent flavour, but the bees do not make much, which is probably owing to the ſcarcity of freſh water. The fleſh of the lambs and kids, and the milk and cheeſe are of excellent quality; but the wool is bad, owing to the little care they take of their flocks. The iſland produces but little corn, not enough to maintain the ſmall number of inhabitants.

The moſt important article of trade in Liſſa, proceeds from the fiſhing. One boat alone, with a drag net, catches ſometimes in a few hours of a dark night, ſixty, a hundred, to a hundred and fifty thouſand ſardels. But in theſe caſes, the too great abundance becomes an object of mortification. Through one of thoſe little political reaſons, which often carry along with them conſequences of conſiderable prejudice, the iſland of Liſſa, tho'

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in a ſituation the moſt convenient for carrying on a very advantageous fiſhing, has no magazine of ſalt. The fiſhermen, therefore, when they happen to catch a great quantity, are under the neceſſity of ſailing or rowing thirty or forty miles to find ſalt in the magazines of Leſina to preſerve them. They undertake this voyage, if the wind and weather are tolerably favourable; but it frequently happens, that deſpairing of being able to go and return with the neceſſary expedition, they throw into the ſea fifty, and ſometimes a hundred thouſand fiſh, to prevent their being poiſoned with the ſtench. Every thouſand ſardels is worth about a chequin; and mackrel is of more value, as being a larger fiſh. It would certainly be an act of true national œconomy to permit a magazine of ſalt to be kept on the iſland of Liſſa, that the poor inhabitants might not ſo often loſe the fruits of their labours. The fiſhing of the Liſſans is not confined to the dark nights of the ſummer months only, for the mild climate of that iſland permits the fiſhermen to exerciſe it even in winter; and the plenty of fiſhes that come to ſhelter themſelves in that ſeaſon, among the contiguous rocks, afford ſufficient recompence for the fatigues inſeparable from that art. All the ſpecies of fiſhes round about Liſſa, are larger than in places nearer the continent; and the *orate* and *dentici* catched there in winter are uſually preſerved in gelly, and form an article of trade. Among the curious fiſhes found in thoſe waters, the *Paklara* is the moſt remarkable; I did not ſee it, but the deſcription given me by the fiſhermen, agrees with the *Echeneis* of *Artedi*, and *Govan*, though, in my opinion, not with the *Echeneis* or *Remora* of the ancients. *

The

* Artedi, *Syn.* p. 28. Govan, hiſt. Piſc. Gen. XXXVII.

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The Liſſans, by their ſituation lying out of the way of others, and conſequently not in danger of damaging the nets of their neighbours, ought to be at liberty to uſe whatever ſort of nets ſuited them beſt; yet they are not at full liberty even in that article. This is the principal reaſon that they frequently leave their own waters, and go to fiſh about the ſmall iſland of Pelagoſa, which is ſixty miles diſtant from Liſſa, and about the ſame diſtance from the promontory of S. Angelo in Apulia. The fiſh they catch there, is not ſent to market at Venice, where they pretend that they meet not with due encouragement; but are all ſold in the kingdom of Naples, of which the coaſt that looks to the Adriatick is but ill provided with fiſhermen. It were to be wiſhed, that in places where great plenty of fiſh is caught, ſuch as the iſland of Liſſa, ſome proper regulations were introduced relative to the fiſhing in general, and to the ſalting of the fiſh in particular; and the model might be borrowed from the French, accommodating it to our circumſtances.

The iſland Pelagoſa, together with ſeveral rocks that appear above water near it, are the remains of an ancient Volcano. I will not aſſure you that it was thrown up out of the ſea like ſeveral other iſlands in the Archipelago, though there is ſome ground to ſuſpect this to have been the caſe; becauſe we find no preciſe mention of it in the moſt ancient geographers. It ſhould ſeem that it ought not to be confuſed with the Diomedee, from which it is thirty miles diſtant; yet it is not impoſſible that they have reckoned it among them. The lava which forms the ſubſtance of this iſland, is perfectly like the ordinary lava of Veſuvius, as far as I could diſcover in paſſing near it. If a naturaliſt ſhould land there, and viſit on purpoſe the higheſt parts of the iſland, perhaps we might then know whether it has been thrown

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up by a ſubmarine Volcano, as the iſland near Santerini was in our age; or if we ought to believe it the top of ſome ancient Volcanic mountain, of which the roots and ſides have been covered by the waters, which divided Africa from Spain, forming the Strait of Gibraltar; an invaſion that no one can doubt of who has examined the bottoms and ſhores of our ſea. The Liſſan fiſhermen ſay, that Pelagoſa is ſubject to frequent and violent earthquakes; and the aſpect of the iſland proves, at firſt ſight, that it has ſuffered many revolutions; for it is rugged, ruinous, and ſubverted. I ſhould have been deſirous of viſiting the Diomedean iſlands alſo, that are called *Tremiti* by our geographers; a name, perhaps, derived from the frequency of earthquakes, as, according to my conjecture, they are of vulcanic character: but I begin to be diſcouraged in theſe purſuits. I will confeſs to you, my good Friend, that after the diſcoveries of ancient volcanos by Mr. Banks, and his learned companions, in the iſlands of Scotland, Iceland, and the new diſcovered countries; after the obſervations of the acute Biſhop of Derry, in Ireland, in Auvergne and Velay; and the orctological journies among the mountains of Switzerland, France, and Germany, lately made by the celebrated naturaliſt, John Strange, Eſquire, all our things ſeem to me but microſcope objects. The only advantage that we can draw from their littleneſs, and which hinders my being entirely diſguſted with them, is this, that they can be more diligently examined than the greater objects. Nature is always equally ingenious and grand; nor, to the eyes of an obſerver, ought the ſmall baſaltine cryſtallizations of common lava, or the little cryſtals of the Euganean hills, to prove leſs than the amazing priſmatic columns of Staffa, or the cryſtalline grottos of Switzerland. It requires, however, ſome pains, to keep this truth always before one's eyes, and more eſpecially

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on seeing the descriptions, or drawings of those magnificent works of nature.

Of the Island of LESINA.

The name of this island when subject to the Liburni, is not recorded, as far as I know, by either the ancient geographers or historians. Scylax calls it φαρος, and says no more about it. Scimnus (if he is as ancient as some of his commentators pretend) is the first who mentions that it was a colony of the Parii; * in which he agrees with Strabo, who adds, that it was by those new-comers, first named φαρος, Paros. Tolommeus gives the name of φαρια, Pharia, both to the island, and to its capital; and the geographers of the lower times, almost all agree in giving it this name, from which that given it by the Slavi, differs very little; they calling it *Hvar* in their language, which, according to the primitive pronunciation, substitutes the letters HV for the letter F, and sometimes the letter P for F. At present its name is Lesina, *i. e.* a shoe-maker's awl, from its figure resembling that instrument. The Parii, who, according to Diodorus Siculus, were sent by the oracle, to settle themselves in the Adriatick, built Pharia, and formed a small republick, of which a coin is still extant. They lived in liberty, more peaceable than glorious, till the time of Argo, by whom they were subdued, perhaps, together with many other people on the continent, and all the other islanders, excepting those of Lissa. The Roman historians say much less about the Farii than about Demetrius their countryman, who becoming powerful at the court of Agro, and Teuta, betrayed his sovereign, and delivered into the

* Φαρος δὲ τουτων ουκ αποθεν κειμενη
Νοσος, Παριων κτισις εστιν. Σκυμν. 425.

the hands of the Romans, ſeveral places, one of which was Faria, his native country, of which he had been made governor by Agro; and he became Lord of it, in reward of his treaſon. How this man abuſed the friendſhip of the Romans, we learn from Polybius, Dion and Appian. Faria bore the puniſhment of his crimes, and was more than once deſtroyed by the Romans themſelves, in the war with Philip of Macedon. It is ſomewhat remarkable, that the fame of the Farii, both begun and ended by means of a traitor. After the death of Demetrius, we hear nothing more concerning them in the ancient prophane writers. When the empire was on its decline, this iſland changed maſters often, and continued a long time in the hands of the Narentines; afterwards it had particular lords, the laſt of whom, Aliota Capenna, ceded it to the moſt ſerene republick of Venice, in MCCCCXXIV.

This iſland is about forty-four miles long, and its greateſt breadth is eight. The chief town is alſo called Leſina, and is ſituated towards the weſtern extremety of the iſland, in a place not ill choſen, though not comparable, in any reſpect, to the ſpot on which the ancient Parii had built their city. It is tolerably well inhabited, and there reſides in it a proveditor, or governor, who is a noble Venetian, and a biſhop; the caſtle which commands it is built on the top of a marble hill, but both that, and the other military works are ill kept. The harbour, though well covered, and ſpacious, is little frequented at preſent, and the inhabitants are poor. The Leſignani are civil to ſtrangers, tho' they are ſaid to live in no good harmony among themſelves.

During the ſhort time that I ſtaid at Leſina, I collected a variety of ſtones. The moſt beautiful is a marble of a very fine

ſaline grain, fleſh coloured, and liſted; this is not found in large ſtrata, but in groups, like the ſtalactitical marbles, which are alſo common there. Very large ſtrata are ſeen of a ſpecies of *lumachella*, an object more curious to the eyes of a naturaliſt, than valuable to the ſtone cutter; its ground is of a ſullied white colour, and its ſubſtance rigid; the fragments of marine bodies diſpoſed horrizontally in it, are changed into a yellowiſh ſpar. That ſpecies of marble ſtone of a dark red colour, which at Venice goes by the name of *Roſſo da-Cattaro* (becauſe a quantity of it is brought from the neighbourhood of the city of Cattaro) is very common in Leſina; and there is alſo plenty of corallated *breccia*, in the ſpots of which a reddiſh and violet colour predominate; the ſtones of which this laſt ſpecies is compoſed, are rounded, and preſerve the characters of a long fluitation. This *breccia* ordinarily occupies the ſummit of the mountains: and thus renders more evident the ancient adheſion of the iſlands with the neighbouring continent, on whoſe heights the ſame kind of ſubſtance may be obſerved. You are convinced as well as I am, that, before rounded gravel could be formed, it was neceſſary that high mountains pre-exiſted, from which the torrents might ſeparate them, and carry them away; and ſeeing in the rounded ſtones of the *breccia*, that are found on the mountains of the iſland, marine bodies petrified, it becomes indiſpenſable to place the ſeat of an ancient ſea upon thoſe mountains now deſtroyed, from whence the gravel deſcended. It is true, that this buſineſs of fabrication and deſtruction requires ſome length of time; but we cannot help that. But how the immenſe beds of gravel brought down by rivers and torrents, or tranſported and mixed by the marine waters, have been abandoned by the ſea, and invaded by new rivers and torrents, which transformed the continued plains into mountains, and hills cut and ſubdivided by valleys:

leys: how the rivers and torrents were deprived of water, by the deſtruction of the more ancient mountains, from whence the gravel had been carried down: and how, in the great chaſms and valleys, a new ſea has been introduced, I really cannot tell; though theſe laſt events muſt have happened very near our age, in compariſon of the firſt. It would be truly a whimſical enterpriſe to ſet one's ſelf purpoſely to explain how, and when all the revolutions undergone by the ſurface alone of our globe have come to paſs. The number of them that could be proved by the obſervations of diligent and unprejudiced naturaliſts would alarm a thouſand Browalls, who perhaps would not come to terms, and content themſelves to let all thoſe revolutions happen rapidly one after another in a ſhort round of ages; though a lover of peace would hardly venture to object againſt ſuch an expedient.

I collected on the ſhore of Leſina, yellow, green, and red flints, all penetrated by a pyritical denromorphous fluor. In the ſmall rock of Borovaz there are heaps of foſſil bones.

The town of Leſina gave birth to ſeveral learned men in the XV century, whoſe names are recorded by *Vincenzo Pribevio* in his oration recited there in the year MDXXV *de origine et ſucceſſibus Sclavorum*. Two of them diſtinguiſhed themſelves in poetry: (viz) *Annibale Lucio*, and *Pietro Ettoreo*; of the firſt of whom ſome poetical pieces are printed, as, perhaps, ſome works of the laſt alſo are, and many remain in manuſcript, among which there is a tranſlation of Ovid's *Cure of love* in Illyric verſe, and various eclogues.

The iſland of Leſina, though ſtoney, and barren in the higheſt parts of it, contains tracts of very good land, fit to bear, not only fruit trees, but likewiſe corn. Hence this iſland is better peopled than any other in the Illyric ſea, and ſome of its villages deſerve the name of large boroughs, and exceed in number of inhabitants, many ſmall cities. Among theſe the largeſt is that which aroſe out of the ruins of the ancient Faria, and is ſtill called the old city. It lies on the ſea ſide, with very pleaſant fields towards the hills, and a commodious harbour before it. In this place alone the ſea yields to the prolongation of the land; and the manifeſt cauſe is the declivity of the fields behind the village, which are extended, in an eaſy aſcent, along the ſide of the mountain, and flanked by very high land towards the upper extremity. The muddy waters, that deſcend after the rains, depoſite the earth, with which they were ſaturated on the ſhore, and by little and little fill it up. It alſo appeared to me, by the few ancient ruins remaining above ground, that Faria lay almoſt two miles further back than the old city actually does, and the accounts given me by the inhabitants confirmed me in this opinion. I ſaw only two ancient pieces in this place, the moſt valuable of which is a baſs-relief ſufficiently well preſerved in Greek marble, which repreſents a bark under ſail, with the rudder on the right ſide of the poop, and the ſteerſman. The other is a ſepulchral baſs-relief, ill cut. I was obliged to go to find the firſt on the top of the ſteeple, in which building it is probable that many monuments of the Farii have periſhed. I found no traces of Greek inſcriptions, and only a ſingle ſepulchral monument in Latin, a mile without the village, which I copied, and repented of going ſo far to find it. The inhabitants of this iſland are tall of ſtature, couragious, and lively: they apply themſelves much to navigation, and the people

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in general are employed in fiſhing, and in building barks and boats.

From the old city, I went on horſeback to the ſmall bay of Zucova, where there is a harbour tolerably good for fiſhing boats. Along the ſhore of that bay, there is a whitiſh ſlatey marble, with the ſlabs of which the iſlanders of Dalmatia generally uſe to cover their houſes. It happens often, that, in ſplitting the thickeſt *laminæ* of this ſpecies of ſtone, the impreſſions of marine plants, and of fiſhes, not known in our ſeas, are diſcovered; but the chance of finding the impreſſions, and the bones of the fiſhes petrified is very rare, tho' that of the plants is very common; but there are not many different ſpecies of them. Impreſſions of Coralline plants are rare, and the only one that I met with well expreſſed, is gone to England to have a place in a very rich collection, together with the few fiſhes that I could find on that ſpot. I alſo found there muſcles changed into ſtone, but ill preſerved, and disfigured. The ſea, not obliged by local cauſes to recede, encroaches upon the coaſt of Zukova, and ſubmerges again, by little and little. The curve ſtrata of ſlatey marble, in which the ſkeletons of the fiſhes lie buried, will remain in the courſe of time, covered with gravel and ſand, mixed with the teſtaceous bodies of the Adriatick; and will afford matter of ſtudy to the naturaliſts of future ages; if any of them happen to go there to examine that ſpot, become ſubaqueous, or again left dry. A naturaliſt cannot indeed be greatly blamed, who having drawn up a petrifaction from ſome ſtoney ſtratum in the bottom of the ſea, believes it formed by the waters under which it lay; and yet in fact the proof is evident, that it is not generally ſo: and the large pieces of marble containing *lenticulares*

and

and *orthoceratites*, that are fiſhed up by theinſtrument uſed by the coral fiſhers, out of the depths of our Adriatick, give a clear demonſtration of it. The ſkeletons of fiſhes at Zukova, which, in no very great ſpace of time will be again under water, together with the ſtrata in which they lie, certainly do not belong to our ſea, poſterior, by much, to the time of their depoſition. I have none of them by me at preſent, to deſcribe their diſtinguiſhable parts, and determine to what genus they belong, and which of the known ſpecies they reſemble moſt.

A ſmall hamlet at a diſtance from the ſea, called Verbagn, has another maſs of ſlatey marble, in which fiſhes are alſo found: but in order to have any, it would be neceſſary to wait whole weeks, and to employ at one's own expence the ſtone diggers, who are not fond of theſe curioſities. Verbagn is two miles diſtant from Varboſea, a well peopled village two ages ago, as may be ſeen by many good houſes now in ruins. The inhabitants of this place, and generally all thoſe on the ſea coaſt, are civil and hoſpitable. The chief occupation of the women is the culture of the land: and the men are moſtly employed in the fiſhing, when they have means and health to exerciſe it. From Varboſea to Gelſa by land, is a journey of four miles. I found on the road, a foſſil curioſity, that ſeemed to merit all my attention. A good part of the way, and almoſt the whole of an intermediate hill is of a fluviatick concretion, left there by ſome ancient river now loſt, or deviated ſome other way, not diſcoverable at preſent. This concretion which muſt have been formed long after the marble ſtrata, of which the organization of the iſland is compoſed, is certainly not a little anterior to the irruption of the new ſea in our lands, which, however, is not an affair of recent date; becauſe the iſlands of Dalmatia muſt have been,

been, from a ſtate of ancient plains, reduced into mountains interſected by vallies, when the ſea came to viſit them. The interior part of Dalmatia, beheld from the top of the mountain Biocova, compared to the iſlands, which from that height are ſeen all united, preſents a view very like them, when the ſurrounding ſea is removed by fancy. I emptied, in imagination, into the valleys of Baſſina, flanked here by hills, and there by mountains, all the ſea that ſurrounds Leſina, Liſſia, Brazza, and the numerous other Illyric iſlands, and left them dry. Boſſina then changed ſituation, and became a continuation of Primorie; and the Illyric Archipelago appeared almoſt without any diſtinguiſhable alteration tranſported beyond mount Adrio. The ſmall lake of Jezero which full of little iſlands and woody rocks, lies on the continent at the foot of Biocova, which ſeparates it from the ſea, repreſents in the circuit of a few miles, what all that tranſalpine country would be if it were inundated, and what the iſlands were before the ſea ſurrounded them.

Gelſa is a large and populous village, well ſituated, with a good harbour, and plentifully ſupplied with freſh water. It ſtands at the foot of marble hills, which, with an eaſy deſcent, loſe themſelves in the ſea. There one ſees the fineſt *breccia*, ſcattered in the coarſe pavement of the ſtreets, and employed in the moſt ignoble fabricks. The *breccia* of Gelſa is generally compoſed of angular pieces of white marble, ſuſceptible of a fine poliſh, and united together by a cement of red petrified earth; the violet coloured *breccia* is alſo not rare, it is ſtained very irregularly, and is worthy to adorn any noble edifice. Monſignor Blaſcovich, biſhop of Macarſka, cauſed all the columns of his new cathedral, and all the ſteps of the altars to be brought from this place. The only defect that can be ſeen in them, proceeds

proceeds from the bad choice made by the ſtonecutters, led perhaps by a ſpirit of miſtaken œconomy, to take the firſt that came to their hands, as being moſt convenient for embarkation. When the marble of a new quarry is to be uſed, the exterior ſtratum ought not to be depended upon, it being uſually damaged by the injuries of the air, and of the ſalt water if on the ſea ſhore, which the inner ſtrata are not expoſed to. The ſubſtance of the marble of Gelſa, employed at Macarſka, is beautiful, and the poliſh as high as that of the fineſt *breccia* at Rome, which probably was brought thither from Dalmatia; but the cement that forms the aggregation of the pieces, has ſuffered ſome degree of prejudice by being expoſed for a long ſeries of ages to the rain, the ſea, the heat of the ſun, and the action of the air; and hence, the ſmoothneſs of the work has not all the uniformity and perfection that might be expected. It would be requiſite to take the breccia of Gelſa at ſome hundred paces diſtant from the ſea, and from a quarry moderately deep; the ſucceſs could not fail amply to compenſate the ſmall additional expence. And would it not be better for the city of Venice, where the quantity of marble annually uſed is conſiderable, to have it from the iſlands of Dalmatia, at a trifling charge, rather than from the *Terraferma*, or from other ſtates, at an exorbitant price. Beſides the *breccia*, I ſaw at Gelſa, adventitious pieces of *lamachella*, white, and black, compoſed of bituminous marine earth hardened, and of ſmall *Orthoceratites*, transformed, as uſual, into a calcareous ſpar of ſaline grain.

Though there are many houſes at Gelſa, and a good number of perſons dreſt in our faſhion, have habitations there, yet I could not find proviſions for myſelf, and boat's crew, for money; and I was obliged to paſs the night on board of my boat.

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The village of S. Georgio, ſituated on the eaſtern point of the iſland, is in itſelf not remarkable. The only motive that can induce a traveller to go there, is to ſee a large quantity of Roman urns, which at a ſmall diſtance from the ſhore lie in heaps, or ſcattered in the bottom of the ſea, where they have remained fourteen ages at leaſt. In ſome of them the makers name may be read, when the cruſt, with which they are covered, of *Eſcaræ* and other polipous ſubſtances, is taken away. They appear to be of the good times.

As the iſland of Leſina is the moſt populous of any in the Adriatick, ſo it is the richeſt for variety of products, and all of excellent quality. It produces wine, oil, figs, almonds, ſaffron, and honey in no ſmall quantity; the flat ground produces alſo corn, but not in any meaſure proportioned to the number of inhabitants. The mild climate agrees very well with the aloes, of which the threads might be uſefully employed in fiſhing tackle, after the example of the Americans and the French. The palm trees, orange trees, and carobs thrive very well; and it would be worth the while to encourage the multiplication of mulberry trees there, as well as in the other iſlands, and the littoral parts of Dalmatia, where the ſoil is proper for them. Firewood is alſo an object of trade to the Leſignani, but it goes on decreaſing from year to year, through the little economy uſed in cutting the woods, and by reducing the ground into tillage. Wool, ſheep, and cheeſe bring a ſmall ſum of money annually into the iſland; but the moſt conſiderable article exported from thence, is ſalt fiſh, which deſerves to be protected, and relieved from publick impoſts, as well as private oppreſſions; that the number of fiſhermen may increaſe, and that they may find their account in bringing their fiſh to mar-

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ket at Venice, which, ſince the beginning of this age, has paid a heavy tribute to the northern fiſhers. If only the half of the money that the nation annually ſpends in unwholeſome pitchers were diffuſed in Dalmatia, the whole province would feel a conſiderable benefit, and the publick revenue would be agumented. The fiſhing at Leſina was in former times of greater conſequence than it is at preſent; and then it was perhaps true, that all Italy, and a good part of the Levant, were provided with ſardels from thence, and the dependant iſland of Liſſa, as Mr. Buſching ſays. *Rakia* is alſo a commodity of ſome importance at Leſina, as well as in the other Illyric iſlands, and on the ſea coaſt of Dalmatia; but the capital reaps little advantage from this alſo; becauſe the economical regulations, concerning the products of that vaſt and fertile province, are all equally ill directed.

Of the Iſland of BRAZZA.

This iſland never was, as far as we can conjecture, inhabited by a people of any fame: Scilax only juſt mentions it, by the name of Κρατια, Cratia, Polybius by that of Βρεκτια, Brectia: Licophron calls it Κραθις, Crathi; Pliny, Atoninus, and Peutinger Brattia, Porphyrogenitus Βαρτζω, Barzo; and ſtyles it and Leſina as καλλίςας, ϗ ευφορωτατας, very beautiful and fertile. It is thirty-two miles in length, of unequal breadth, but never exceeds nine miles. The inhabitants aſſert, that, in old times, there was a city in the place, now called Scrip; but it ſeems ſtrange, that all the Greek and Latin geographers have paſſed that city over in ſilence, ſuppoſing it actually to have exiſted. Buſching has given this iſland a town for its capital, by the name of Brazza, and has alſo placed a Biſhop to reſide there, though there is actually no town of that name, nor a Biſhop's reſidence

on

on the iſland, and the place that ought to be reckoned the capital is Nereſi, where the governor, who has the title of Count, uſually reſides, as being the moſt convenient ſituation for the adminiſtration of juſtice to the iſlanders. The celebrated geographer above mentioned, has thrown together a good number of little blunders in the few words he ſays concerning this iſland. They are, "Brazza, *Bractia*, takes its name from the town "Brazza, where a Biſhop reſides. The Venetian Count, or "governour has his habitation at S. Pietro, a place ſituated on "the weſt ſide of the iſland near the port of Milna." To the actual miſtakes compriſed in the firſt words, it muſt be added, that S. Pietro, is not on the weſt of the iſland, nor near the port of Milna. *

* Mr. Buſching muſt either have been ill ſerved by his correſpondents, or have copied from bad originals, when he wrote of Dalmatia. I had not that volume of his work under my eye till late, and therefore could not point out the principal inaccuracies in their proper place. I proteſt that I am not actuated by the leaſt degree of malice againſt that very deſerving man; every writer is but too much ſubject to want of exactneſs. But I conclude that I am doing a real ſervice, not only to Mr. Buſching, but to his readers, by advertiſing them of ſome notable miſtakes, which it would be well, if ſomebody took the trouble of correcting province by province. It is not true that the Dalmatians (No. LI. p. 75. ed. of Florence) *are Greeks by nation and religion*; a part of them indeed follow the Greek rite, but not the largeſt part. Nona is ſtill a heap of ruins, and ſo far from being a *good fortreſs* (page 76) that it can ſcarcely be called a walled town. Vrana (p. 77) far from being *one of the moſt delicious places in Dalmatia*, is a frightful heap of rubbiſh, neither inhabited, nor habitable. Knin (p. 78) is watered by the river Butimſchiza, not by *the Boliſniza*, and is not *the ſeat of a Biſhop*. Dernies (p. 79) is not *a city of little conſequence*, but a poor village; and the cathedral of Sebenico is not *in the caſtle*. Nor is Cliſſa *a city*, (p. 80) neither does the road that leads into Turkey, paſs near that fort *through a valley*, but on the ſide of a mountain. Salona was not ſituated in *a beautiful plain*, but at the foot, and

Brazza is altogether mountainous and rocky, and, in the higheſt parts of it, there are large tracts of land quite ſtoney, ſcarcely fit to bear juniper and other plants that grow in barren places. It coſts great fatigue to reduce the ground to tillage, and yet thoſe inhabitants go on from year to year, increaſing their cultivated land, and conſequently their product of wine, diminiſhing their woods and flocks. The ſtoney nature of the ſoil, and the ſcarcity of ſprings of freſh water ſubject the iſland to fatal droughts.

The principal place of Brazza, is Nereſi, ſo called, by Greek derivation, from the reſervoirs of water near it. This is the place of reſidence of the governor, and where the publick meetings are held; the gentry of Brazza repair thither at ſet times, from the maritime places, where they have their habitations. The ſituation of Nereſi is not pleaſant, though the only good lands in the iſland lie immediately before it. The road to it, from the ſea ſhore, is exceedingly rough and wild; the air continues rigid after the ſpring ſeaſon; and the winter, they ſay, is intenſely

and on the ſide of a hill; nor *did the brook Salona paſs through it*, but a river of that name paſſed by the outer ſide of it. I forbear to mention many other ſmaller blunders, corruption of names, and errors in poſition, which would make a long catalogue. But I am ſurpriſed that not only in treating of Dalmatia, but alſo of ſome of the moſt conſiderable and beſt known cities in Italy, he ſhould write ridiculous extravagancies. One, among many others, is concerning Venice (p. 29.) *ſecured againſt famine by the fiſhes, which the inhabitants may catch ſtanding at the doors of their houſes*; it is alſo a ſhame not to know the value of our ducat, and and to fix it at £. 7½ as it was in old times. Concerning Padua, Vicenza, Verona and other cities of Lombardy, Mr. Buſching ſpeaks with the ſame inadvertency, placing, for example, a chain of mountains *between Vicenza and Padua*, where the *ſette Comuni* inhabit, *who cultivate the vines*. How can we believe him when he talks of the Terra Auſtralis?

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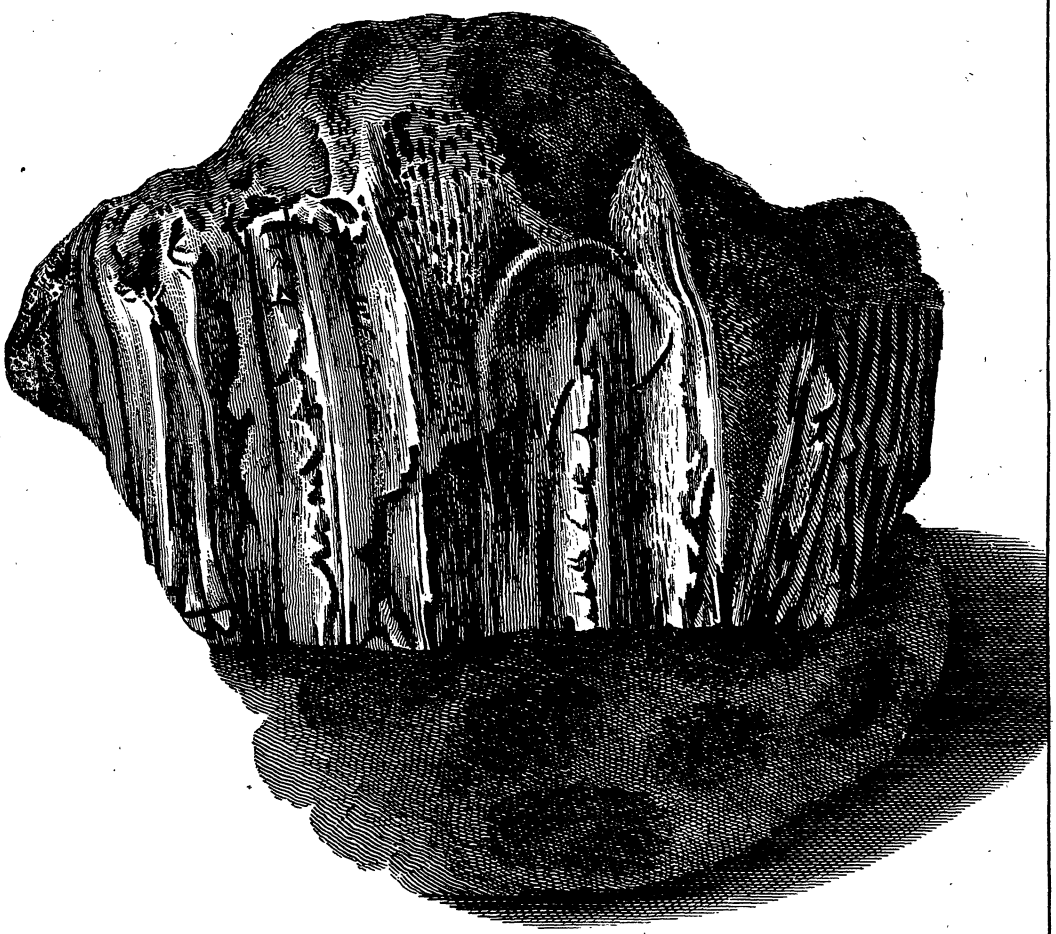

Piece of Fossil bone, & teeth, from the Island of Ofero.

J. Lodge Sculp.

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intenſely cold. The country enjoys ſome beautiful points of view, but the pleaſure they can give coſts too dear. Nereſi has been more conſiderable in the times of incurſions and piracies; and hence it ſtill preſerves a kind of primacy, becauſe the principal iſlanders retired thither; but now, ſince the places near the ſea may be ſafely inhabited, it has loſt much of its population, and deſerted houſes are falling into ruins on all ſides. Bol is no inconſiderable town, and S. Giovanni, S. Pietro, and Puciſchie are large villages full of induſtrious and trading people. The hills above Nereſi, which form as it were the back bone of the iſland, are quite ſterile, and produce nothing but ſome juniper, and wild pine, of the ſplinters of which they make a little trade for the uſe of the nocturnal fiſhing. The iſland of Brazza affords great variety of ſtones. The moſt ordinary kinds are, whitiſh common marble, *breccia*, and marble containing *orthoceratites* and *lenticulares*. Of the firſt ſpecies, the ancient quarries are to be ſeen from whence the materials were taken to build the palace of Diocleſian. In the ſame place, aſcending a little towards the hills, there is a marble of a black ſubſtance, full of marine bodies, changed into white ſaline ſpar. There is alſo a vein of white ſtone, ſoft, when newly extracted from its native bed, but, after being expoſed to the air, it becomes hard, and ſucceeds much better than the too ſoft and farinaceous ſtones of Coſtaggia, and S. Gottardo in the Vicentine. The ſame kind of ſtone is found at S. Giovanni, and at Puciſchie; that is, at the two oppoſite extremities of the iſland. In other times there was a mine of *Piſſaſphaltus*, if we may believe Tomeo Marnavich; but I could not find any veſtige of it, only my learned friend Guilo Bajamonti ſhewed me at Spalatro, a piece of calcareous gray ſtone, emitting an offenſive ſmell, full of diſtinguiſhable marine bodies, and different from all the other bituminous ſtones

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that I had ſeen in Dalmatia, and told me that it was known by the ſtone cutters, under the name of *Pietra Pegolotta*, i. e. pitchy ſtone; it was found at Puciſchie. In the neighbourhood of the village of S. Pietro are found, within the hard ſtone, beſides the *Nummali*, many *Echnites*, and *Pectinites*; and above the harbour of Poſtire, there is a ſpecies of gray, compact whetſtone without marine bodies, which breaks in *laminæ*, like flints. At S. Giovanni there are *fungites* and *conchæ diphiæ*, among the ceratamorphous petrifactions.

The product, for which this iſland was known among the ancients, continues ſtill in its primitive perfection; Pliny diſtinguiſhes it, above the others, for the excellence of its kids.* And in fact, not only the kids, but alſo the lambs acquire a particular exquiſiteneſs of taſte, by the paſture of that iſland, and the milk with which they are nouriſhed far exceeds that of the neighbouring countries. Hence the cheeſe of Brazza is highly eſteemed in Dalmatia, and wherever it is known. The ſheep, however, have been almoſt univerſally ſubſtituted in place of the goats, by thoſe iſlanders, as being leſs hurtful to the woods, of which the goats are great deſtroyers. Generally ſpeaking, the the wool of Brazza is not good: but the flocks of Count Giuſeppe Evelio muſt be excepted, he having introduced a race of foreign ſheep upon his lands at Puciſchie, and cauſing them to be kept with greater attention than is uſual in thoſe parts. The ſame gentleman has not only improved his own lands, by reforming the abuſes in the management of cattle, and in agriculture, but has alſo rouſed ſome of his neighbours to follow his laudable example. The bee-hives, vines, and olive plantations, which belong

* *Capris laudata Brattia.* Plin. L. III. c. xxvi.

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belong to him, are ſo many proofs of his uſeful application to economical ſtudies, which he alſo knows how to mix with agreeable ones. The bee-hives of the iſland are made of marble ſlabs well luted, or cemented in the joinings; the upper ſlab is moveable, and a weight of ſtones is laid on it, to keep it from being moved by the wind; the aperture before, by which the bees paſs, is very ſmall. There are great numbers of bee-hives in the ſame place, and Count Evelio, poſſeſſes ſome hundreds. He uſes all poſſible diligence, that the bees may neither want water nor food, the two principal calamities to which the hives of the iſland are expoſed.

Notwithſtanding the ſtoney ſoil of Brazza it produces a great quantity of wine, which is generally held as the beſt in Dalmatia; this article, fire wood, and ſheep, form the principal revenue of the Brazzani. The iſland alſo produces oil, figs, almonds, ſilk, ſaffron, and a little corn. The *Lentiſcus* grows there in great plenty, and the poor peaſants make oil of the berries, when there is ſcarcity of olives. I got a ſpecimen of that oil from a gentleman of the country, and made trial of it in dreſſing victuals, but could not accuſtom myſelf to its ſtrong ſmell. The neceſſaries of life may be purchaſed in the iſland at a very low price, and ſome of the delicacies may be had for little money; ordinarily three *beccaſichi* are ſold for a Venetian ſol, and all the reſt in proportion. The fiſhing makes alſo no inconſiderable article, though far inferiour to that of Leſina and Liſſa; nor are the waters about Brazza much frequented by particular kinds of fiſh.

The neighbouring iſlands of Solta, the Ολυνθα of Scilax, and called *Solentum* in the Peutingerian table, may be conſidered as a continuation

continuation of Brazza, though it does not depend on the ſame governour, being ſubject to Spalatro, both in civil and eccleſiaſtical caſes. It is divided from Brazza only by a ſmall rock inhabited by rabits. Solta is about twenty-four miles round; but contains few inhabitants, being almoſt quite covered with woods, in which many vipers are propagated, as well as in thoſe of Brazza. Its honey is remarkably good, and in no reſpect inferiour to that of Spain or Sicily.

Of the Iſland of ARBE *in the Gulf of* QUARNARO.

It is a terrible geographical leap from the iſland of Brazza to that of Arbe, at leaſt a hundred and twenty miles diſtant. But what can I ſay? travellers by ſea ſometimes make ſuch leaps. I have already wrote what little I was able to obſerve concerning the leſſer iſlands in the ſea of Sebinico, and Zara; and of Cherſo, and Oſero I have ſaid more, perhaps, than diſcretion required; I only touched at the other iſlands of the Quarnaro in paſſing; and Arbe is the only one of which I can ſay ſomething not altogether uſeleſs.

This iſland was little known by the ancient geographers; yet it is named by Pliny, Peutinger, and Porphyrogenitus; in Ptolomy, through ſome miſtake of the tranſcribers, whereby the text has been altered, the iſland is called Σκαρδῶνα, Scarduna; and two cities are attributed to it, Arba, and Colento. The people of Arbe, having ground to believe that there actually were two cities on their iſland, adhere to the corrupted text of this geographer, by which their noble iſland is confounded with the uncultivated and deſert iſland of Scarda, contiguous to the iſland of Pago. In the Roman times, it is probable, that there were no other cities

cities in Arbe, but that which bears the name of the iſland, in the neighbourhood of which ancient monuments are frequently dug up. I viſited the pretended ruins of Colento, but could diſcover nothing elſe but the remains of a place of refuge, built in barbarous times, thro' the fear and weakneſs of the inhabitants. Nor is it poſſible that reaſonable men would have eſtabliſhed a place of conſtant habitation in ſuch a ſpot; for a more diſmal ſterile, cold, and windy ſituation, even in the heat of ſummer, could not be found. It is, moreover, evident, by the conſtruction of the walls, that the work was done in great haſte; and the veſtiges of the gates diſcover the meaneſt architecture; there is not one hewn ſtone in the ancient taſte, no fragment of inſcriptions, nor a piece of fine marble. The plans of the houſes or cottages contained within the walls, do not ſeem to have been deſigned for the habitations of families, they are ſo narrow, and inconvenient. If I was an Arbegian, I would look out for the veſtiges of ſome other city that might do more honour to the founders of it.

The city of Arbe, though the capital of a ſmall iſland, not above thirty miles round, wholly uncultivated, and uninhabitable in the higheſt part that faces the channel of Morlacca, has always maintained itſelf with decorum. That it was inhabited by civilized people in the Roman times, is evident, by the inſcriptions that have been frequently diſcovered there, ſome of which are now in the collection of the noble Venetian *Jacopo Nani*, and others ſtill remain at Arbe. In the lower times it ſuffered all the calamities to which the neighbouring countries were ſubjected, but it always recovered itſelf with honour even after diſſolution.

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The archives of the community of Arbe contain ſome ancient papers that are truly valuable, and they are kept with great jealouſy; by them it appears, that, in the eleventh century, gold and ſilk were not rare among the inhabitants. Arbe was ſubject to the kings of Hungary, afterwards it became dependant on Venetian feudatories, and, at laſt, was taken under the immediate dominion of the moſt ſerene republick, by which a governor is appointed who has the title of count and captain; that dignity was held, when I was there, with great honour, rectitude, and prudence, by Signor Tommaſo Barozzi, who was equally beloved and reſpected by the inhabitants. The number of people on the iſland does not much exceed three thouſand ſouls, diſtributed in a few pariſhes, which might be officiated by a ſmall number of prieſts. Yet, through a monſtrous inconſiſtency that falls very heavy on the poor inhabitants, they have to mantain no leſs than three convents of friars, and as many of nuns, beſides the conſiderable charge of near ſixty prieſts, who have a very ſcanty proviſion. This numerous clergy is governed by *Monſignore Giannantonio Dall' Oſtia*, a very learned and worthy prelate, adorned with all the good qualities, and ſocial virtues that conſtitute a true and reſpectable philoſopher.

The climate of Arbe is none of the happieſt; the winter ſeaſon is horrid, eſpecially when agitated by the violent northerly winds, which ſometimes transform the intermediate ſeaſons into winter, and cauſe the ſummer itſelf to diſappear. Theſe furious winds do great damage to the iſland, particularly in the winter and ſpring. Two years ago, about twelve thouſand ſheep periſhed in one night, of cold, in the common paſtures of the mountain; where, according to the cuſtom over all Dalmatia, they are left in the open air the whole year round. The ſalt fog raiſed by

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by the dreadful commotion of the waves, which often roars, between the mountain of Arbe and the oppoſite alps, in the narrow channel of Morlacca, conſumes all the buds of the plants and corn, if it happens to be drove upon the iſland by the wind; and it is followed by a cruel ſcarcity of every kind of product. This calamity communicates its baneful influence even to the fleſh of the animals left on the paſtures, that becomes ill-taſted, in conſequence of the bitterneſs, and bad nouriſhment of the food. Abſtracting from theſe irregularities, the air of Arbe is healthful, nor ought the conſtant ſummer fevers among the inhabitants to be attributed to its influence, as they are, more probably, derived from unwholeſome food, and a way of life differing little from that of the Hottentots.

The appearance of the iſland is exceedingly pleaſant, nor do I know another in Dalmatia, that, in this reſpect, can be compared to it. On the eaſt it has a very high mountain, of the ſame ſubſtance as the Morlacca, of which it was once a part. At the foot of this mountain, the reſt of the iſland is extended to the weſtward, and divided into beautiful and fruitful plains, interſperſed with little hills, fit to bear the richeſt products. At the extremity, that looks, to the north, a delightful promontory, called Loparo, ſtretches into the ſea; it is crowned with little hills, which almoſt quite encloſe a fine cultivated plain. Near this promontory are the two ſmall iſlands of S. Gregorio, and Goli, very uſeful to ſhepherds and fiſhers. The coaſt of Arbe, that faces the Morlacca mountains, is quite ſteep, and inacceſſible; and the channel between them is extremely dangerous, being expoſed to furious winds, and without a ſingle port on either ſide. The long, and narrow iſland of Dolin, lying parallel to the iſland of Arbe, along the coaſt of Barbado, forms a

channel leſs dangerous, though by no means ſo ſecure as it is beautiful to look at. There are ſeveral harbours in the neighbourhood of the city of Arbe, by which the trade of the beſt part of the iſland is facilitated.

The city ſtands on a riſing ground between two harbours, which form a peninſula; it contains about a thouſand inhabitants, among whom are many noble families, but few of them are rich. The principal are the *De Dominis*, from which ſprung the famous Archbiſhop of Spalatro, Marc' Antonio; the Galzigna; the Nemira, of whom, in the fifteenth century, an Antonio is praiſed, by Pallanio Foſco, as an excellent mathematician, though he learned th a ſcience of himſelf, without a maſter; the Spalatini, who receive freſh luſtre from the preſent Biſhop of Corzola, reſpectable for his purity of manners, no leſs than for his learning; and the Zudenighi.

Among the moſt remarkable curioſities of the iſland, the Arbegiani are proud of many egregious reliques, and particularly of the head of S. Criſtofano, their protector; but the lovers of ſacred antiquity will find ſomething much more ſingular in the three heads of Shadrach, Meſhach and Abednego, which are venerated there with great devotion. Four of the principal gentlemen are keepers of the ſanctuary, and to their care the precious records of the city are alſo committed. Among theſe records there is a tranſaction of MXVIII, by which the city of Arbe promiſes to the Doge of Venice, Ottone Orſeolo, a tribute of ſome pounds *de ſeta ſerica*, of wrought ſilk, and in caſe of contravention, pounds *de auro obrizo*, of pure gold.

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In the laſt age there was a learned Biſhop of Arbe, named Ottavio Spaderi, who would not permit the reliques of S. Criſtofano to be expoſed to the publick veneration, on the ſolemnity of the ſaint's day, becauſe he doubted of their authenticity. The mob roſe, and was going to throw him down from the top of the hill on which the cathedral ſtands; nor did the tumult ceaſe after the day was paſt. The goverment ſent an armed veſſel to deliver the prelate from the danger he was in; and the Pope thought proper to give him a more tractable ſpouſe in Italy.

The nature of the ſoil of Arbe is not the ſame in every ſituation; nay it would be difficult to find a country where there is ſo great a variety in ſo little ſpace. There is a very great difference between the ground of the extremity of the mountain, above the channel of Barbado, and the ſides of it, on the one part towards the iſland, and on the other facing the ridge of Morlacca. Nor is the top of the mountain itſelf always of the ſame ſtructure, for in ſome parts it is extended in a fine level plain, partly woody, and partly cultivable; in other places it is quite rocky, and compoſed of bare marble. The ground at the foot of the mountain, where it ſtretches towards the ſhore, oppoſite to Jablanaz, is nothing but marble; and, in the diſtrict of Barbado, it is gravelly, and a good ſoil for vines. The ſmall ſtones there are angular, having been a little rounded by the waters which depoſited them; and their moſt ancient ſtrata go on hardening underground, by the filtration of the rain water. The wine of Barbado is of excellent quality, and in great eſtimation; hardly any other product is cultivated along that coaſt, as the vines ſucceed ſo well, notwithſtanding the negligent culture. Below the pretended ruins of Colento the land bears vines, olives, mulberry, and other fruit trees, and alſo corn in the loweſt parts. All the lower

lower part of the iſland is compoſed alternatively of little hills and vallies, and of a ſubſtance, for the moſt part, very different from that of the mountain, and its adjacencies. As the organization of the mountain is wholly of marble, ſo that of the hills is generally arenaceous. The whetſtone forms a large part, and frequently contains *Oſtraciles*, and *Lenticulares*; the exteriour ſtratum is commonly friable. The vallies, which, according to appearances, ſhould be full of ſand, are provided with an excellent ſoil, with ſuch a mixture of very minute ſand, as is requiſite to keep it light. Springs of freſh water, are by nature well diſtributed over the iſland, and maintain a proper humidity when the ſummer is not exceſſively dry; ſo that the dark verdure of the hills covered with wood, the luxuriance of the vines, and freſhneſs of the corn ground, form a ſpectacle extremely chearful and agreeable.

The iſland of Arbe would have every thing requiſite for the ſubſiſtence of its ſmall population, if the land was cultivated by a people leſs ſtupid and lazy. It produces, however, firewood, of which many cargoes are annually ſent to Venice; corn, oil, excellent wine, brandy, and ſilk, ſince very ancient times; they feed the ſilk worms with the leaves of the black mulberry; it alſo exports hides, wool, ſheep, hogs, and horſes of a good breed. There is alſo abundance of good ſalt made on the iſland; and the fiſhing of tonny, mackrel, lanzardi, and ſardels, notwithſtanding it is managed in a ſlovenly and awkward manner, makes no inconſiderable article of trade to the Arbegiani, who, like all their neighbours, find their account in ſelling this commodity to ſtrangers, rather than to the Venetians. Yet, with all theſe natural products, the iſland is very far from being rich,

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or even in a tolerably flouriſhing ſtate; becauſe there is much land left uncultivated, and the peaſants are lazy.

In making my obſervations concerning the foſſil hiſtory of the iſland of Arbe, I found ſome things that appeared very curious. The ſummit of the mountain is almoſt plain, as I ſaid before, and in ſome places is depreſſed like a baſon. I examined with diligence the maſſes of marble, that are ſcattered there dependently from the ſtrata, and found, without any ſurpriſe indeed, having frequently met with the ſame thing, that the greateſt part were *breccia*; and was pleaſed, that my opinion about the ancient ſtate of the mountains in thoſe parts acquired ſtill greater force. One thing I met with on thoſe heights was new to me, and that was, very large tracts of minute ſand, mixed with an iron ochreous earth, depoſited in very regular ſtrata, juſt like thoſe that are formed by the inundations of our large rivers. I examined, with the microſcope, that ſand, ſo ſtrangely ſituated on the top of a mountain, in an iſland, and found it to conſiſt of quartz, and manifeſtly produced by the trituration of matter ſeparated from mineral mountains.

You, my learned Friend, will certainly not cenſure me, if I aſſert poſitively, that the arenaceous quartz is produced by the trituration of mountain ſtones carried down by torrents, and pulverized by a conſtant friction in following the courſe of rivers. Our waters of Lombardy, and particularly the Po, leave no room to doubt of this fact, and reaſon alone might convince a man, who had never ſeen the banks of great rivers at a diſtance from their ſources. The naturaliſts of the north, and among them the celebrated Wallerius, who certainly well deſerves his fame, in order, I ſuppoſe, not to engage themſelves in reſearches, the

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conſequences of which might carry an appearance of contradiction to the opinions reſpected concerning the age of the world, took the expedient to allow a ſtrange kind of pre-exiſtence to ſand, and to infer that ſtones were generally formed from it; which ſeems much the ſame as to ſay that flower exiſted before wheat.* It appears to me unaccountable, that the learned man, after having recited the opinion of Ariſtotle, and other ancients, about the origin of ſands, aſcribed by them to the mountains, and pulveriſed ſtones; and, after being forced to confeſs, that, to a part of them, no other origin could be aſſigned, ſhould be frightened at the great quantity, and ſituation of both the ſubterraneous and ſubaqueous ſands, and hence conceive an obſtacle to the eſtabliſhment of the ancient rational opinion. It is very true, that the aggregate ſtones (among which I place whetſtones of the fineſt grain) owe their formation immediately to the concretion of ſand, or minute gravel: but this does not prove, that ſands do not proceed from the comminution of ſtones. Would not a man be reckoned a very preposterous reaſoner, who, taking up a handful of the ſand of the Po, ſhould turn to the mountains from whence that great river deſcends, and ſay, "now I comprehend of what the mountains are formed!" inſtead of ſaying, "I comprehend from whence the ſands are formed." The opinion of Wallerius, concerning

* *Arenæ—uſum præſtant æqualem ut aliæ terræ in eo quod originem præbeant lapidibus, & montibus; unde & patet arenam eſſe ſæpe priorem. Wall.* Syſt. Mineral, 1772. pag. 101. & pag. 107. Obſ. 2. *Vetat tamen ingens quantitas, nec non ſitus arenæ tam ſubterraneus, quam ſubaquoſus, ut hoc de omni arena dici poſſit—Plurimos montes ab arena concretos facilius demonſtrari poteſt quam arenam ab his deſtructis eſſe ortam.*

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cerning the generation of ſand, muſt, at leaſt, appear ſingular to thoſe, who know that it agrees exactly in ſubſtance and extenſion with the ſtrata of calcareous ſtones, and quartz, from which it naturally ought to be derived. We are told by him, page 108, obſ. 5. that, "probably the quartz ſands have been "from the beginning *generated* by a viſcous, or gelatinous mat-"ter *generated* by the waters, and mixed with them, then ſuc-"ceſſively divided into grains, afterwards condenſed and harden-"ed." He endeavours to prove this geneſis, by the fiſſures which are diſcovered by the microſcope, in the ſmall atoms of ſand, and the adheſion of metallick particles to theſe grains; though it may be demonſtrated by an eaſy experiment, that a piece of quartz, taken from any mine, well pulveriſed under the hammer, and afterwards waſhed in water, gives grains of ſand, in which may be ſeen the ſame fiſſures and metallick particles, which appear, by means of a glaſs, in the ſand quartz under water, or under ground, depoſited by ancient waters. After all this, is it not ſomewhat extraordinary, that the learned Wallerius will hardly allow that calcareous ſand is produced by ſparry and calcareous ſtones pulveriſed, (p. 109) and with difficulty ſays, that *probably* it proceeds from them. If that great man had ſet himſelf to make a new theory for calcareous ſand likewiſe, he would perhaps have called in queſtion the origin of the largeſt gravel, and even of the maſſes that roll ſometimes from the top to the bottom of mountains; and who knows how many other new things he might have ſaid?

In the ſmall ſand on the top of the mountain, at a place called Crazzich, there are ſome ſcattered heaps; and alſo ſome perpendicular veins of *geodes*, ſo compact and heavy, as to deſerve a place among rich iron minerals. In old times, the back of the

mountain was covered with elm trees; and from the ſide of it, that looks to Loparo, the rain waſhed down to the ſea ſhore that kind of quartzoſe, very minute ſand, known by the ſtone cutters, and glaziers, by the name of *Saldame*. It is probable, that Pliny,* ſpoke of this ſituation, where he ſays, that, for ſawing marble, there was found a good ſpecies of ſand in a ſhallow bay in the Adriatick, which at low water, remained dry. That part of the ſhore, which lies at the foot of the rough ſtoney hill, ſtill called *Verch od Mela*, the hill of ſand, though there is no ſand on it now, is all of *ſaldame*, as are ſeveral other ſpots on the iſland, where the ſea beats againſt the roots of ſandy hills. This is one of thoſe caſes calculated to embarraſs future naturaliſts: though it is a caſe that has happened before, as you will ſee by reading a little further. The ſand, which occupied the ſuperficies of the mountain, where, upon ſtrata of *orthoceratitic* marble, and *breccia* of very ancient origin, it had been depoſited by ſeas, or ancient rivers, (which ſeems more probable, as it has no veſtiges of marine bodies) is now carried down by the rains from its former reſidence, and mixed with the teſtaceous bodies of a new ſea, which produces not ſand of a like nature, by deſtroying the littoral calcareous hills. Who knows in what ſpace of time this ſand may become petrified, together with the marine bodies, and in how long a ſpace after, it may form the baſe of new hills. It ſhould ſeem that this ſpecies of ſand came from very diſtant parts; as no mineral hills exiſt along our Adriatick; and that it has undergone other revolutions before the preſent. In the hill, on which the city of Arbe ſtands, the whetſtone has this ſand for its baſe, and in ſeveral places,

* Pliny, L. XXXVI. cap. vi.

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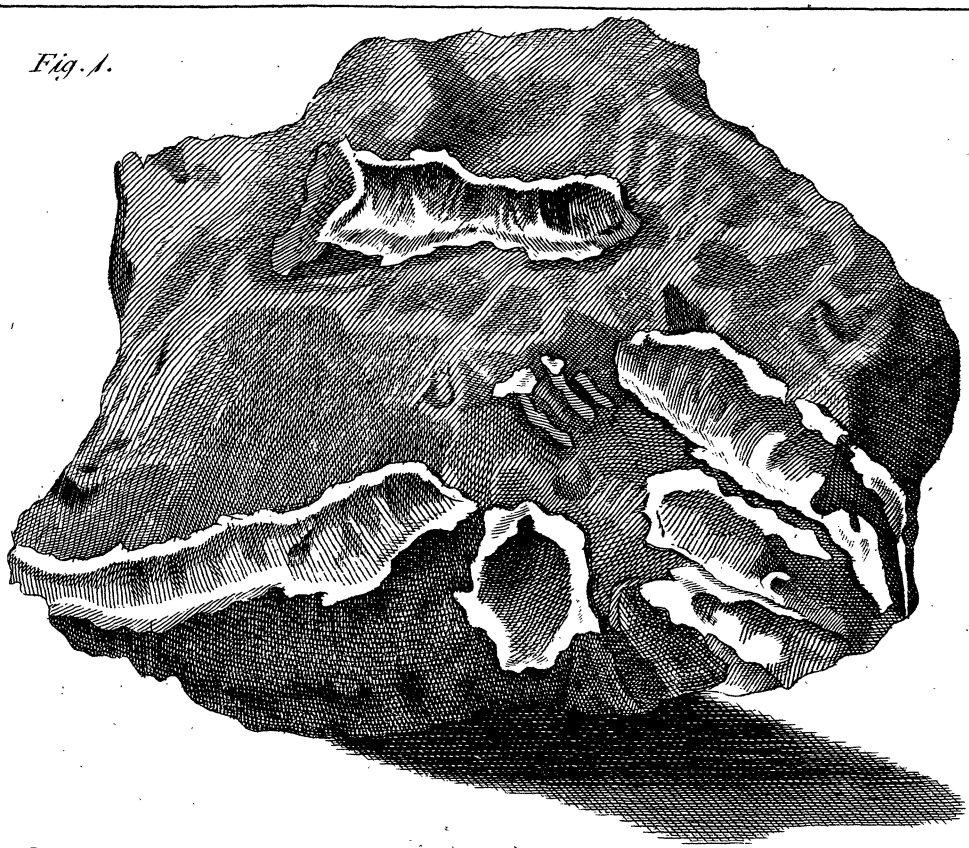
Fig. 1.



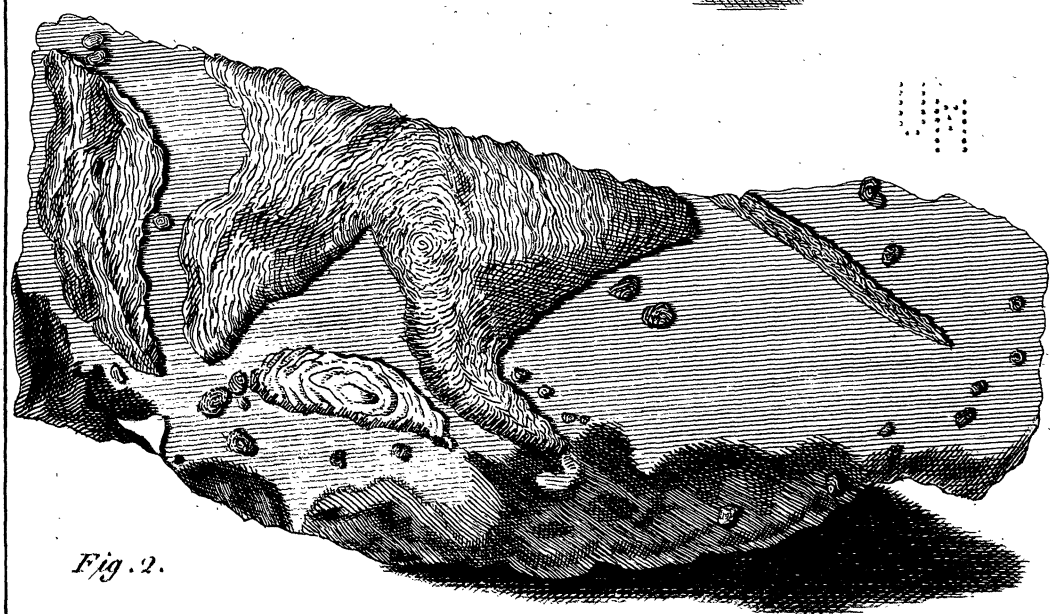


Fig. 2.

F. Lodge Sculp.

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places, it contains a prodigious quantity of *lenticulares*, which are, as every body knows, productions of a ſtill unknown ſea; the *porpitæ*, deſcribed by Linnæus as their original,* not agreeing with them. In the hills of Laparo, are frequently found foſſil *nummali*, ſcattered in the ſand ſcarcely indurated, ſo that the eventual waters ſeparate them, and carry them away. In theſe arenaceous hills, which the contiguous ſea is deſtroying by little and little, are alſo frequently found exotic *echinites*, of various ſpecies and ſizes; and likewiſe on the banks of the port of Arbe, oppoſite to the city. Near the port of Campera, and at port Domich, the quartzoſe ſand ſtone of the hills contains vaſt quantities of *oſtracites*, and foſſil *nummali*. It is evident, that theſe hills are of poſterior formation to that of the mountain: yet notwithſtanding, they muſt be very ancient, as they contain petrifactions ſtrangers to our ſeas, and to the preſent climates! In the hill where the Arbegiani have their pleaſant walk, there are, in the whetſtone, irregular ſmall pieces of flint and jaſper, in which marine fragments are ſometimes ſeen. I would not, however, draw the concluſion that Wallerius does (p. 305) "Hence it is evident, that there are alſo Deluvian jaſpers gene-"rated by fluid matter, that can receive and encloſe within "them extraneous bodies." The repeated obſervations made on the changes of which ſtones are ſuſceptible, have convinced me, that, for the moſt part, neither flints nor jaſpers have ever been in a fluid ſtate; and I have in my poſſeſſion a ſmall ſeries of foſſil productions of the Euganean hills, collected with my own hands, from which much light may be drawn, relative to the geneſis of this claſs of ſtones.

* Caroli Linnæi Amæn. Acad. T. i. pag. 177. *De corallis Balthicis* Fig 5. a. b. T. iv. p. 257. *Chinenſia Lagerſtromiana*. Fig. 7, 8, 9.

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The *breccia* of the mountain of Arbe takes a fine poliſh; it is uſually ſtreaked with white, and united by a very lively red cement. The pieces which compoſe it are angular, and of fine marble. As I have ventured already to ſay ſomething againſt the opinions of Wallerius, concerning the generation of ſand, I cannot help confeſſing to you, that his theory of the aggregate ſtones appears to me ſtill more ſtrange, and contrary to phyſical obſervations. I do not mean to raiſe myſelf by cenſuring that great naturaliſt; and only deſire that you will excuſe me if I do not admire him on this point, as I really do on ſo many others. He ſays,* "that it hardly ſeems poſſible to him, that the *ſaxa*, "and ſtones, compoſing the aggregate ſtrata, could have mutu- "ally *conglutinated*, if they had not been of a ſofter conſiſtence; "as the *conglutinate* matter could never find entrance into perfect- "ly hard ſtones." Hence he concludes, "1ſt, That the fracture "of the ſtones has been operated in the moment of their defic- "cation, and induration, by the reſpective attraction of the par- "ticles, by compreſſion or precipitation, or ſome other ſimilar "cauſe. 2d, That theſe aggregate ſtones adhered together, to "form one body, while they were yet in a ſoft ſtate. 3d, That "this union, or adherence was at leaſt begun in ſubterranean "places, where the fractures were executed; it ſeeming impoſ- "ſible, that any generation, or ſtoney *conglutination* can be made "in the open air. 4th, That the *conglutination* being begun, or "perfected, theſe ſtones have been thrown out upon the ſuper- "ficies of the earth, and mountains, by ſome prodigious force. "In a word, that the fracture of the materials, and the begin- "ning of their *conglutination* have been antediluvian, and the pre- "ſence of *ſaxa* and *conglutinated* ſtones on the ſurface of the earth, and

* Wall. Syſt. Min. p. 431. obſ. 2. ed. cit.

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"and mountains, diluvian." I ſhall not at preſent take notice of the impropriety of the words implying glue, which has certainly nothing to do in calcareous or vitreſcent aggregates, formed by cryſtallization or tartarization, and by fuſion ſometimes more, and ſometimes leſs perfect. The four propoſitions of Wallerius are contradicted by fact; and as to the firſt, it is a certain truth, that the angular ſmall ſtones, of which the *breccíæ* are formed, are confuſed and mixed together, and various in their compoſition, inſomuch that they cannot even be ſuſpected of ancient continuity. Beſides, the *breccíæ* that we ſee formed at the bottoms of mountains, and by the ſides of torrents, manifeſtly ſhew us the mechaniſm which nature makes uſe of to join them together. Nor is it credible that the ſtones, which compoſe the *breccíæ*, have been ſoft at the time they were congeſted together. One needs only break ſome pieces of *breccia*, to ſee that each ſmall ſtone ſtands by itſelf; and it often happens, that they may be ſeparated one by one, when the cement, which keeps them united, is not ſufficiently hardened into ſtone. If they had been ſoft at the moment of coagmentation, the one muſt frequently have penetrated the other, which is never ſeen. The third aſſertion is inadvertent in every reſpect; ſince, by examining the aggregate ſtones, by means of water, it is very plain, that they could not poſſibly be united under ground, as may have been the caſe with thoſe which owe their production to vulcanic fire. It ſhows a ſingular inattention to ſay, that, in the open air, it does not ſeem poſſible for ſtoney ſubſtances to be generated or hardened: as a quantity of *ſtalagmites* are actually formed in places the moſt expoſed to the air; and the ſtoney incruſtations of the hot ſprings grow daily in the open air, under the eye of the obſerver. The fourth is abſolutely contrary to matter of fact; as the *breccíæ* are found diſpoſed in vaſt

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gular ſtrata, above other ſtrata of leſs various compoſition, but of equally vaſt extenſion; nor can it be imagined, that a ſubterraneous force could throw them out, from the bowels of the earth, without mixing and disjoining them a thouſand ways. Beſides, the diſtinction of the two periods antediluvian, and diluvian, does not ſeem ſatisfactory. According to his diluvian ſyſtem, how will Wallerius account for the many petrifactions of exotic marine bodies within the pebbles that compoſe the *breciæ?*

Breccia, however, is not the moſt intereſting or valuable marble furniſhed by the iſland of Arbe, and the two ſmall iſlands of S. Gregorio, and Goli contiguous to cape Laparo. There is great plenty of white ſtatuary marble, the grain of which is exactly like that uſed by the ancient Romans, which was not always Greek, as is commonly believed. It has not that whiteneſs of ſnow, which paſſes for a good quality in the marble of Carrara, and which often deceives the ſtatuary, as well as the judges of his work. The perfect reſemblance between the Roman ſtatuary white marble, and that which is found at the foot of the mountain of Arbe, towards Loparo, and in the two ſmall iſlands mentioned above; the ancient name of Loparo, which I was told was found by ancient records ſtill exiſting in Arbe, to have been *Neoparos;* the probability that the Romans, by going to take the ſand mentioned by Pliny, in the neighbouring ſhallows, might have diſcovered this marble, which is found thereabouts in great abundance; the great quantity of broken angular and irregular pieces of it ſtill to be ſeen at the foot of the *monte della Salbia*, though now the ſuperficies is corroded by time, are reaſons, which induce me to believe, that there were ancient marble quarries in this place, from whence the Roman ſtatuaries had

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had a part of their materials. The ſubſtance of the ſalutary marble of Arbe, is an aggregate of *orthoceratites* and *nummali*, of the largeſt ſize; but, to diſcover them, it is neceſſary to examine ſome of thoſe broken corroded pieces, which I juſt now took notice of, for when the marble is ſmooth, every veſtige of extraneous bodies diſappears; ſo equally have the petrifactions been perfected both in the ſubſtance and colour. In breaking ſome pieces of this ſtatuary marble, I found it cryſtalized within, like the other ſorts compriſed in the claſs of ſaline marble. This diſcovery pleaſed me more than any other obſervation I had hitherto made; becauſe it appeared more immediately uſeful to the nation, and the beſt calculated to free us from a conſiderable annual expence in the purchaſe of two large cargoes of Carrareſe marble. And the diſcovery is ſo much the more opportune, becauſe we now receive no marble from Carrara of a good quality; ſince the Engliſh have eſtabliſhed an agent at Maſſa, who buys up for their account, all the pureſt pieces, leaving, for the Italians, that, which is veined, and ſoiled with the colour of aſhes, which ſucceeds very ill in ſtatues, or in any other noble work.

In the waters of Arbe and Pago, I made many obſervations on the marine *phoſphorus*, of which I promiſe to give you an account, as ſoon as I have reduced them to ſome degree of perfection. In the meantime, my learned Friend, accept of what I am able to give you; and look upon this letter as a proof of my friendſhip and veneration for *you*, who occupy ſo eminent a place among the naturaliſts, and prove to the *literati* beyond the mountains, that, even in the preſent age, there lives among us the genius of a Valliſnieri, and a Redi, who did ſo much honour to our Italy heretofore.

Obſervations

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OBSERVATIONS

ON THE

Island of CHERSO and OSERO.

Of the various ancient Names of the Island, and the Writers who mention it.

THE island *Cherso* and *Osero*, for which I sailed from Venice about the middle of May 1770, in company with John Symonds, Esquire, an English gentleman, and Dr. *Dominico Cirilli*, professor of botany and natural history at Naples, under the auspices of the most generous patron of the sciences, and of natural history in particular, is situated in the rocky and stormy bay, which, by the ancients, was called *Carnicus*, *Flanaticus*, *Polaticus*, *Liburnicus*, and, in our days, is known by the name of *Quarnaro*. The island lies between the coast of Istria and Dalmatia, extending from north to south, sixty miles in length, with a very unequal breadth. In more remote ages, the history of which is blended with fable, it was much known, and had various names, the most ancient, however, seems to have been the island *Brigeide*, or the islands *Brigeidæ*; but its usual name, almost three thousand years since, was *Apsirtides*,

Apſirtus, or *Apſirtius*. *Scylax Cariandenus*, the oldeſt of the geographers of whom the works or fragments are now extant, and who lived about 422 years before our era, knew it by the name of *Apſirtis*; and, in his *Periplus*, leaves us the dimenſions of it. *

Scymnus Chius, who lived 332 years after *Scylax*, ſpeaks alſo, and more diffuſely of the *Apſirtides*, placing them together with the Liburnian iſlands very properly, and very improperly with the *Electrides*. He ſays, " that, in the Adriatick ſea, there are " many iſlands diſpoſed like *Ciclades* in an inward bay, of which " ſome are called *Apſirtides*, others Liburnian, and *Electrides*." He adds, " They ſay that thoſe iſlands in a bay of the Adriatick " are inhabited by near a hundred and fifty thouſand barbarians, " who cultivate a rich and fertile ſoil. There the ewes often " bring forth twins. Though near the *Ponticum*, the climate " of theſe iſlands is different; neither ſnow nor froſt remains " long on them, but the rains maintain the ſoil continually freſh " and moiſt; the ſky is frequently darkened on a ſudden, eſpeci- " ally in the ſummer days, and thunder, whirlwinds, and ty- " phons burſt out." †

Dyonſius

* Ἀψυρτις νῆσος σαδίων τί. πλατος δὲ ςκ. " The iſland *Apſirtis*, is cccx *ſtadii* " long, and cxx broad. *Scyl. Cariand. in Periplo. inter Geograph. min. ab Hudſono collectos.* And here it is obſervable, that *Scylax* gave the meaſure of this iſland in preference to almoſt all the others, ſhewing thereby, that he thought it of greater conſequence. The unſkilfulneſs of copiſts has probably altered the numerical figures, ſince they by no means correſpond to the true length and breadth of the *Apſirtis*; unleſs they were to be taken for the meaſures of only the half of it, as far as the *Euripus*.

† Τούτων δὲ τὰς λεγομένας Ἀψυρτίδας,
Ἠλεκτρίδας τε, τὰς δὲ καὶ Λιβυρνίδας,

To

Dionysius in his *Periegesis*, commented, some ages after by *Eustathius*, says: "The islands of *Apsirtus* occupy a large space, and "there the sons of *Colchos* rested after their long voyage." * *Strabo*, has adopted the etymology which seems indicated by *Dionysius*, speaking of the *Apsirtides*, † and says, in his VIIth book, "near the coast of which I have been treating, lie the "islands of the *Apsirtides*, in which there is a report that *Medea* "killed her own brother *Apsirtus*, who was pursuing her."

Besides the Greek geographers of the good times, other writers, both in verse and prose, have taken notice of our island. *Orpheus*, whose poem, upon the expedition of the Argonauts,

 is

Τὸν κολπον ἱςορεῦσι τὸν Ἀδριαπκὸν
Τῶν Βαρβάρων πληθός τι περιοκειν κύκλῳ
Ἑκατὼν σχεδὸν μυριάσι πεντήκοντά τε,
Χώραν ἄριςην νεμομενυς, καὶ καρπίμην.
Διδυμοτοκειν γάρ φασι καὶ τὰ θρέμματα.
Ἀήρ διαλάσσων δὲ περὶ τὸν (*) ποντικὸν
Ἔςιν ὑπερ αὐτοὺς, καίπερ ὄντας πλησίον.
Οὐ γὰρ νιφετώδης, οὔτ' ἄγαν ἐψύγμενος,
Ὑγρὸς δὲ παντάπασιν διὰ τέλυς μένει
Ὀξύς ταραχώδης ὤν τε πρὸς τὰς μεταβολὰς,
Μάλιςα τυ θερυς δὲ πρηςήρων τε, καὶ
Βολὰς κεραυνῶν, τύς τε λεγομένυς ἐκει
Τύφωνας . . .

Σκύμν. Χὶος. *in Periegesi. ap. eundem Hudsonum. v.* 369. *& seq.*

* Ἐξειης δε ποροιο πρὸς ἀυγὰς Ιονιοιο
Αψύρτυ νήσων ἀναφαίνεται ἀσπετὸς ὁλκὸς
Τάς ποτε κόλχων υιες ἐπέδραμον . . .

Dionys. Oeconom. Perieg. v. 487. *& seq. Ibid.*

* αη Κελτικόν?

† Παρ' ὅλην ἣν ειπον παραλίαν νῆσοι μὲν αἱ Ἀψυρτὶδες, περὶ ἃς ἡ Μηδεία λέγεται διαφθεῖραι τὸν ἀδελφὸν Ἄψυρτον διωκόντα αὐτην. Στραβ. βίβλ. η.

In which passage it is observable, that the voyage of *Apsirtus*, in consequence of Medea's flight, does not seem to have been counted among the fables.

is certainly a very ancient composition, and, for that reason, the language of it was modernised about the times of Homer, speaks of the islands *Apsirtides*, and says plainly, that they took their name from the dead body of the prince who had landed there.* And, in

* Νύξ δὲ τοτ' ἀςροχίτων μέσσην παράμειμβε πορείαν.
Ἐκ δ' ἐτελειτο δόλος ςυγερὸς, καὶ κῦρες ἄιδναι
Μηδειης ὑπ' ἔρωτος, ἐπικλυτοῦ Ἀψύρτοιο.
Ὃν ῥα κατακτείναντες, ἐπὶ προχοὰς μεθέηκαν
Ὀρνυμένου ποταμοῖο. Φέρει δ' ὅγε πνεύματι κραιπνῷ.
Θεινόμενος δὲ δίναις εἰς κῦμ' ἁλὸς ἀτρυγέτοιο
Κέλσεν ὑπὲρ νήσων, Ἀψυρτίδας ἃς καλέουσιν.
Ἀλλ' ἄρα οὔτι λάθων Δὶ ἐπόψιον, ἠδὲ θέμιςας. *Orph. in Argonaut. v. 1026. & seqq.*

"And now the night, adorned with its starry mantle, had finished half its "course, when the horrid treason was executed, and the noble *Apsirtus* fell a sa- "crifice to the fatal love that *Jason* had kindled in the breast of *Medea*. They "both together threw the dead body into the river. And by the winds and "waves, it was carried through the desert sea to far distant islands, which from "thence were called *Apsirtides*. But the execrable deed was not concealed from "the eternal justice, nor from the father of the Gods, who sees every thing."

The body of *Apsirtus*, according to *Orpheus*, was thrown into the *Phasis*, and carried by the current of that river, into the black sea, from whence, passing through the Thracian Bosphorus, it entered the *Propontis*, passed between *Sestos* and *Abydus*, traversed the Archipelago and Ionian sea, was driven by the winds into the Adriatick, and at last landed on the Liburnian islands: a strange voyage indeed, which the living are many days in making, and the dead never make in our times. In the mean time, while the body of *Apsirtus* was on its voyage towards our coasts, the Argonauts were sailing towards the north coast, with the intention of steering afterwards due north. They entered the *Paulus Meotis*, and run into the *Tanais*, with all the boldness of sailors who knew their course, and were certain of being able to pass, from river to river, or from rivers into lakes, till they arrived in the northern ocean, though they were not exactly and particularly acquainted with the way. This navigation was believed impossible and fabulous, and the rather, because *Orpheus* sometimes falls manifestly into fable, by which he chose to cover allegorically, according to the custom of his age, who knows precisely what truth. He mixed a great deal of the marvellous in his voyage,

in later ages, the ſame opinion paſſed conſtantly from writer to writer, inſomuch that the abbreviator of *Stephanus Byzantinus* gives the ſame etymology as agreed upon by all the Greeks, and many of the Latins who took it from them.* Lucan† and the elder

voyage, as Homer did in the peregrinations of Ulyſſes. But as the navigation of the Mediterranean was well known three thouſand years ago, and the contrary, cannot be deduced from Homer's fables; ſo it is reaſonable to believe, notwithſtanding the mixture of allegory by *Orpheus*, that, in ancient times, the inland navigation up the *Tanais*, and down the *Devina* or *Neva*, was alſo generally known. In our days, perhaps the internal country, that lies between the *Paulus Meotis* and the ocean, is leſs known than it was in the days of *Orpheus*, or even before his days. At any rate, the beſt maps ſhew us that there actually is an artificial communication between the Black Sea and the Caſpian; and every body knows, that the wood, for building the Imperial fleet, is tranſported by water, from the Caſpian ſea to Cronſtad. Strabo, in his eleventh book, ſays a great deal of a voyage, by water, from the black ſea to the Caſpian, the Argonauts did not, perhaps, make this voyage in reality; but *Orpheus* writes with too much preciſion, and by attributing ſuch a voyage to them, plainly ſhews that he had a knowledge of thoſe parts, which after him was loſt. It does not ſeem credible, that the whole was a fiction, as in many things he hit ſo well on the truth.

* Ἀψυρτίδες νῆσοι, πρὸς τῷ Ἀδρίᾳ, ἀπὸ Ἄψυρτε παιδὸς Αἰήτε ἐν μιᾷ δολοφονθέντος ὑπὸ τῆς ἀδελφῆς Μηδείας. οἱ νησιῶται Ἀψυρτεις, καὶ Ἀψυρτιοι. *Steph. Byzant. Epit.*

"The iſlands *Apſirtides* in the Adriatick, ſo called from *Apſirtus*, ſon of *Eeta*, "who was traitorouſly ſlain by his own ſiſter *Medea*, in one of thoſe iſlands. "Hence the iſlanders are called *Apſirteſi*, and *Apſirtii*." And, in another place, ſpeaking of the coaſt of Liburnia: Φλάνων πολις καὶ λιμὴν, πρὸς τῇ Ἀψυρτον νησον. *Flanona*, "a city and port near the iſland *Apſirtus*."

† *Colchis, et Adriacas ſpumans Apſirtis in undas.* Luc. Pharſal. lib. V.

On which paſſage the note of *Farnabius* is obſervable for its geographical error: he ſays, *Inſula maris Adriatici cum fluvio cognomine in mare prolapſo ſub Illyrico.* "An iſland of the Adriatick ſea, which has a river of the ſame name, that "falls into the ſea near the Illyric." But it is more ſhameful to ſee, in the dictionary of ſeven languages, printed, perhaps, thirty times by the ſeminary of Padua, on the ſame paſſage of Lucan, "*ibi de fluvio quodam ſermo eſt, qui in Colchis* "*naſcitur*,

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elder Pliny mentioned this iſland; and though the poet only took notice of it by the bye, juſt naming it, the naturaliſt and geographer is ſomewhat more particular. * It ſhould ſeem, that, at leaſt, the profeſſed geographers, whoſe duty it is to be well informed of the true names of places, ought to have been unanimous in fixing the name of this iſland. Yet it was not ſo. *Ptolemy*, inſtead of *Apſirtis*, called it *Apſoros*, and names diſtinctly the two cities *Cherſo* and *Oſero*, Κρέψα, καὶ Ἄψορρος. †

Since

"*naſcitur, et in Adriaticum ſe exonerat.* Lucan ſpeaks of a river that riſes in Min-"grelia, and falls into the Adriatick." It appears impoſſible that ſuch blunders paſs unnoticed for more than half a century, under the eyes of perſons dedicated by profeſſion to learning, and the inſtruction of youth.

* Pliny ſpeaks twice of this iſland, with ſome variation. "*Inſulæ ejus ſinus cum* "*oppidis, præter ſupra ſignificatas, Apſyrtium, Arba, Crexa, Giſſa*, &c. The iſlands "of that gulf, which have towns, beſides thoſe already mentioned, are *Oſero*, "*Arbe, Cherſo, Pago*, &c. l. iii. c. 21. And in c. 26. of the ſame book: *juxta* "*Iſtrorum agrum Ciſſa, Pullaria, & Apſirtides Grajis dictæ, a fratre Medeæ ibi* "*interfecto Apſyrto*, i. e. Near the lands of the Iſtrians lie *Figheruola*, the iſland "of *Brioni*, and *Cherſo*, and *Oſero*, called *Apſirtides* by the Greeks, becauſe *Ap-*"*ſirtus*, the brother of Medea, was killed there."

† It ſeems that Ptolomy alſo thought, that *Cherſo* and *Oſero* ought to be reckoned one iſland only, making no account of the very narrow *Euripus* that divides it. Νῆσοι δὲ παρακεῖνται τῇ μὲν Λιβυρνίᾳ Ἄψορος ἐν ᾗ πόλεις δύο, Κρέψα, καὶ Ἄψορρος. καὶ Κυρίκτα, ἐν ᾗ πόλεις δύο, Φυλφίνιον, Κυρίκτον. Πτολ. Γεωγρ. β. "The iſlands adjacent "to Liburnia are *Apſorus*, in which are two cities, *Crepſa*, and *Apſorrus*, and "*Curitta (Veglia)* where there are alſo two, *Fulſinium*, and *Curitta*." Father *Dolci*, the Raguſcan, in his learned treatiſe, *De Illyricæ linguæ amplitudine, et vetuſtate*, will have it, that the iſland of *Veglia*, in ancient times, was called *Coritta*, and not *Curicta*; and draws its denomination from the Slavic word *Coritta*, which ſignifies *a trough*. I would rather derive it from the greek κύφοι, and am perſuaded thoſe iſlanders would more readily embrace my etymology. Since I happen to be ſpeaking of *Veglia*, I think I ought to take notice of a geographical error of *M. de la Martiniere*. He aſſigns thirty miles of circuit to that iſland, and thus makes it much ſmaller than it is: for it is actually thirty miles long, and its greateſt breadth is about fourteen. *V. Martiniere Diction. Geograph. Crit.* &c.

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Since the ancient geographers did not preciſely agree about the name of our iſland, it is no wonder that the poets and hiſtorians differ on the ſame article. *Apollonius Rhodius*, in his IVth book of Argonautics, gives the denomination of *Brigeidi*, and iſlands of *Diana*, to *Cherſo* and the adjacent iſlands. But the ſame author, ſoon after, relating the death of *Apſirtus*, ſays, his bones were buried near the city, which had taken its name from him, and given it to the *Apſirteſi*. * *Pomponius Mela*, † the moſt exact among the ancient Latin geographers, gave it two names; dividing the two parts. Pliny was not conſtant in this point, ſometimes calling the iſland of *Cherſo*, and *Oſero*, together

* *Apſirtus*, according to *Apollonius*, was killed on that part of the iſland now called *Oſero*.

——— νηῦν χεδὸν, ὅν ποτ' ἔδειμαν
Ἀρτέμιδι βρυγοὶ περιναίεται ἀντιπέρηθε.

"Near the temple which the Brigii inhabitants had erected to Diana on the "oppoſite ſide." But he was buried near the city.

——— Ἔνθ' ἔτι νῦν περ
Κεῖται ὀστέα κεῖνα μετ' ἀνδράσιν Ἀψυρτεῦσιν. *Apoll. Rhod. Argon. l.* IV.

† *In Hadria Abſorus, Celaduſſe, Abſyrtis, Iſſa. Pomp. Mela*, l. II. c. 7. "In "the Adriatick, *Oſero*, *Celaduſſe*, *Cherſo*, *Liſſa*." *Pomponius Mela*, by dividing the two parts of the iſland, and reckoning them as two ſeparate iſlands, ſhews us the error into which *Magini* fell, in believing that the channel, which divides the iſland of *Oſero* from *Cherſo*, was made in times not far from ours: he ſays; "In paſt ages theſe iſlands were only one; but the Venetians having let "in the ſea .... divided them in two." It is probable enough, that, in very old times, there was an iſthmus between *Oſero* and *Cherſo*: but the channel, though perhaps made by art, is not a work of the low ages. *Magini (Deſcriz. del mondo Ven.* 1598) probably found, that the Venetians perfected, and fortified that paſs, as was really the caſe, but he altered the fact by relating it wrong.

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ther, *Apſirtius*, in the ſingular number, and ſometimes *Apſirtides* in the plural, including perhaps, the adjacent little iſlands.*

In the low ages, it was called by the hiſtorian, *Socrates*, *Nicephorus*, *Calliſtus*, and *Sozomenus*† the iſland *Fianona*, and by *Paulas Diaconus*,‡ *Inſula Flanonenſis*, taking the name from the neighbouring city *Fianona*, or *Flanona* in *Liburnia*. The *Slavi*, by whom it was taken by force of arms, or perhaps retaken in the middle times, gave it the name of *Oſoro*. *Palladio Foſio*, or *Negro*, a Paduan writer of the xvth century, has made honourable mention of it, in his little work *de ſitu oræ Illyrici*, l. 2. § and *Giovanni*

* From this inconſtancy of Pliny, and ſome other notions of his, which we ſhall take notice of in going on, it may be ſuppoſed, that that good naturaliſt was not well acquainted with the coaſts of Liburnia, Illyrium, and the iſlands near them; and that he had not viſited them in perſon, as every one ought to do before he undertakes to deſcribe a country. The venerable author, however, ſhould not be too much blamed for this, as, in his work, he was to treat of the whole known world, of conſequence he was obliged, for the moſt part, to truſt to the relations of others.

† Σωκρατ. Ἱστορ. Ἐκκλ. Βιβλ. ϛ. cap. 26. Νικέφ. Καλλιϛ. l. ix. c. 32. Σωζόμ. l. iv. c. 26

‡ *Ob quam rem Conſtantius indignatus evocavit Gallum; qui quum contemnere non poſſet, veniebat ad principem; quumque contra inſulam Flanonenſem veniſſet, eum illic Conſtantius juſſit interimi.* "At which Conſtans being offended, recalled Gallus "(from Paleſtine) And he, not having a ſufficient force to diſſobey the com-"mand of his prince, ſet out on his return. But on his arrival at the iſland of "*Flanona*, he was put to death by order of Conſtans." *Paul. Diae.* lib. 12. Hiſt. Miſcell.

§ *E regione Iſtriæ, ſinu Palatico, quem nautæ carnarium vocitant, interveniente, duæ ſunt (inſulæ) tenui Euripo disjunctæ: ad meridiem Abſyrtium, quæ ambitu colligens ſtadia circiter quingenta vicatim tantummodo habitatur; et ad ſeptentrionem Crexa duplo pene major, in qua duo ſunt oppida, Abſorum ſemidirutum, & alterum eodem quo inſula nomine, quod egregie habitatum nunc illuſtratur Antonii Marcelli ordinis minorum multijuga doctrina, & vitæ integritate. Utraque autem inſula pecoroſa eſt, & lignorum abundantiſſima:*

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Giovanni Lucio, in his claſſical book, *de regno Hungariæ et Dalmatiæ*, in which the beſt records are found concerning the Illyrick affairs, which, before his time, were involved in the darkneſs of barbarous antiquity, and which he was the firſt to illuſtrate. *

Beſides the abovementioned Greek and Latin writers of different ages, many authors, Greek, Latin, Italian, and of other nations, have taken notice of this iſland in their works; but it would be tedious to tranſcribe what each of them has ſaid on the ſubject in particular; nor do I think all the accounts they have given of it, taken together, are ſufficiently explicit or ſatisfactory. Setting aſide, however, the authors of the two laſt ages, †

abundantiſſima, &c. *That, is* "Near Iſtria, in the Polatick bay, which the ſea-"men call *Quarnaro*, there are two iſlands ſeparated by a narrow channel of ſea; "*Abſyrtium (Oſero)* which lies to the ſouthward, and is about five hundred *ſtadii* "in circumference, whoſe inhabitants live in villages and hamlets. On the "north ſide lies *Crexa (Cherſo)* almoſt twice as large, and has two cities, *Abſorum* "*(Oſero)* which is almoſt ruined, and the other, which bears the name of the "iſland. This city is well peopled, and rendered illuſtrious in our days (about "1470) by the univerſal learning and exemplary life of *Antonio Marcello*, a Fran-"ciſcan friar. Both theſe iſlands abound in ſheep and wood."

* *Giovanni Lucio*, beſides his celebrated work *de Regno Hungariæ*, &c. wrote many other hiſtorical memoirs concerning *Illyrium*. They ſay that theſe writings are preſerved at Rome, where he died, among the manuſcripts in the Vatican: and it would be well worth while if ſome perſon took the trouble to examine the papers of a man who was equally learned and diligent; there might certainly be found among them ſome valuable documents and anecdotes, which, through time and barbariſm, are otherwiſe loſt. The Illyrick nation ought to be particularly intereſted in this enquiry.

† *Mauro Orbini*, *Regno Degli Slavi*. Freſchot, *morie ſtoriche della Dalmatia*. *Pietro Coppo*, *del ſito dell' Iſtria*, a rare work, printed in 1540. *Carlo Steffano*, in his *Dizionario Geografico*, Baudrond, &c. Many Venetian hiſtorians, Father *Farlati*,

of ſome of which I ſhall inſert the names in a note, that they may be conſulted by thoſe who chuſe it, I do not think I ought to leave unnoticed the errors of the writers of the *Encyclopedie*, *Cluverius*, and *de la Martiniere*, who may lead many others into miſtakes, as they actually led me at firſt. Therefore I ſhall take the liberty, in the proper places, to ſet their miſtakes in view. At preſent I ſhall only take notice of the ſhameful blunder of the author of the geographical articles in the *Encyclopedie*,* who puts the iſland of *Oſero* in Italy, and ſhews thereby, that, either he did not know the ſituation of the firſt, or the ancient and modern confines of the laſt. Of this blunder, which is not the only one I ſhall have occaſion to ſpeak again, † it is very diſagreeable indeed,

Farlati, *Illirico ſacro*, *Bordon*, all the authors on the iſlands, and eſpecially *P. Coronelli*, P. d' Avity, in his *deſcriptions*, which are accurate, and laſtly, Salmon in his book of voyages.

* *Diction. de l' Encyclopedie*, art. *Oſero* or *Oſoro*.

† To tranſport an iſland from one kingdom to another, or from one province to another, is certainly a miſtake which does no honour to a geographer, but to create a city where one never exiſted, is ſtill worſe. The *Chevalier de Iaucourt* frequently inſerts, in his articles, ſuch particulars concerning a place as really are not, and takes no notice of thoſe for which it is remarkable. We will take, for example the article of *Albano*, a village well known among us. In the *Encyclopedie* it is called "a ſmall city of Italy, in the Paduan territory." *Albano*, which, in our days, is a very ſmall village with few inhabitants, was never either city, or town, or caſtle. No higher title than that of village or hamlet, could ever be given it; but it was, and is ſtill ſo famous for other reaſons, that the geographer may be juſtly blamed who only ſaid two or three words about it, and even thoſe not true. He ought rather to have taken notice of the medicinal qualities of its hot baths, and the curious phenomena, that may be obſerved about it, both in the vegetable and animal kingdoms. Nothing of this, however, is mentioned in the *Encyclopedie*, and to multiply inaccuracies, the ſame geographer, a few articles after, talks of an "*Apon*, a fountain of Padua, where there never was a fountain of that name; which ſeems coined by caprice, being neither Greek, Italian, Latin nor French.

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deed, that, in a work of ſuch diſtinguiſhed merit, there ſhould be found ſo capital miſtakes of all kinds, which certainly ought to be corrected. Errors of fact, eſpecially, ought not to be perpetuated; and if, through the inattention or inſufficiency of any member of that illuſtrious ſociety, too great a number are obvious in the firſt edition, the ſubſequent editions ſhould at leaſt be reviſed and corrected.

Concerning the Origins of the various names above mentioned.

The name of *Apſirtides* is certainly the moſt ancient appellation of theſe iſlands recorded in any writings now extant. The Greek authors, for the moſt part, derive it, as has been already obſerved, from the murder of *Apſirtus*; as they ſay ſo much about the expedition from *Colchos*, in purſuit of the argonaut adventurers, and of the royal maiden *Medea*, that it would be a kind of preſumption to aſſert the whole to be a fable from beginning to end. I believe I may ſay in this caſe with our Dante:

" *O voi che avete gl' intelletti ſani,*
" *Mirate la dottrina che s'aſconde*
" *Sotto ill velame de'* RACCONTI *ſtrani.*"

I am very far from pretending to ſee the ſtory of the voyages and death of *Apſirtus*, in ſo clear a light, as to take on me to affirm it demonſtratively true: yet I cannot deny, that I am rather diſpoſed to believe it not altogether falſe. Indeed I ſhould look upon myſelf as without any criterion, if I judged otherwiſe. Let this be, however, as it will; if we choſe to derive the names of *Apſirtides*, *Apſorus*, *Crepſa*, and *Aſſorrus* from a ſource more

 ſimple,

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ſimple, and which requires fewer diſcuſſions, their etymology is found in the Greek roots very well adapted, and reaſonable. From the *Syrtes* or quickſands, which are frequent in this traſt of ſea, απὸ τῶν συρτέων, and from the adverb αψ, *behind*, it ſhould ſeem that the collective *Apſirtides* might have been derived, ſignifying iſland *beyond or behind the quickſands*. So likewiſe, from the ſame adverb αψ, and ορος *a hill*, the name of *Apſorus*, Αψορος may probably have been given to that part of the iſland lying towards the north, which would ſeem hid *behind the hill*, to thoſe who came by ſea from Greece. *Apſorrus*, Αψορρος, the ancient name of the city, ſituated on the narrow channel, at the extremity of that part of the iſland, that has the ſeparate name of *Cherſo*, at the foot of the mountain, was probably firſt given to the *Euripus*, or channel itſelf, where there is a very violent eddy of flux and reflux, and afterwards communicated to the contiguous city. The word Αψορρος ſignifies preciſely *retrograde*, and the narrow channel, that divides *Cherſo* from *Oſero*, merits that title perfectly well. I am ſorry that I cannot ſo naturally bring the derivation of the two Greek names of *Cherſo*, Κρέψα and Κρέξα, from the future of the verb Κράω, *I command, I reign*; becauſe that etymology ſeems rather adapted to the capital of a more conſiderable and powerful iſland, than any of thoſe in the Adriatick can well be ſuppoſed to have been in ancient times. At any rate, I would rather chuſe thus to ſtrain the derivation, than to allow Father *Dolci* to change the name of *Crepſa*, into that of *Crapſa*, which, in Sclavonian, ſignifies *rapine*. The Father juſt mentioned, muſt have been in no good humour with the inhabitants of the principal iſlands of the *Quarnaro*, when he derived the name of *Veglia*, called, both in Greek and Latin, *Curicta*, from the Slavic word *Coritta*, *a hog's trough*; and when he

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he ſought for the etymology of *Crepſa*, in the word *Crapſa*, *rapine, or robbery.* *

According to the ſtory of *Apollonius Rhodius*, *Cherſo* and *Oſero* were named *Brigeidi*, and iſlands of *Diana*, before they were called *Apſirtides*; and that thoſe names were taken from a famous temple of *Diana*, and from the inhabitants, who were *Brigii*, deſcended from the neighbouring hills. By an unaccountable miſtake of the Greek hiſtorians of the low times, ſome of them gave thoſe iſlands the name of *Flanona*, an ancient city of *Liburnia*, ſituated, not far from the northerly point of *Cherſo*, on the continent. Perhaps, on the faith of thoſe authors, or on account of ſome other circumſtance, of which the memory is loſt, they were called *Inſula Flanonenſis* by *Paulus Diaconus*. This name, which gives ſome ground to believe that the iſland was once dependant on the city of *Flanona*, perhaps was given it at the time when it deſerved the name of *Cherſo*, χέρσος, which ſignifies † *uninhabited, uncultivated, deſert.* I am apt rather to believe this, than to ſuppoſe the word *Cherſo* corruptly derived from *Crepſa* or *Crexa*.

That

* Father *Dolci*, in his little work quoted before, would have a letter changed in the ancient name of *Crepſa*, and appeals to the authority of *Ablavius*, a writer whom I do not know, and whom the father qualifies as ancient and worthy of credit. There was an *Ablavius*, one of Conſtantine's courtiers, who drew the true character of that prince in a few verſes: and an *Ablavius*, but not a geographer, lived under *Theodoſius* the younger. I ſuſpect that this geographer *Ablavius* may be Blau's Atlas, called *Blavius* by ſome writers. This, however, would not be very *ancient*, and *worthy of credit*, only to a certain degree. Father *Dolci* has perhaps found that work quoted thus: *A. Blavii*, i. e. the atlas of Blau.

† χερσεύω, *I lie uncultivated.* The greateſt part of the ground on this iſland χερσεύει to this day.

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That part of the iſland, which lies on the ſouth ſide of the ſtrait, had the name of *Obſara*, *Oſero*, *Oſſur*, or *Oſoro* given it not long before or after the year 1000; but it is probable, that, ſince the time of the laſt invaſions of the *Slavi*, both parts of the iſland bore the name of *Oſero* in common, either corrupted or entire. *Oſero*, and ſome other words of a ſimilar ſound, ſignifies a *lake* in the Scythian languages. On the point of *Kamtſchatka* there is a ſmall place ſituated near a lake, and is called *Oſero*, taking its name from thence. And it is not improbable that the lake has alſo given name to our iſland.*

Of the ancient Inhabitants of the Iſland, and a Sketch of its Civil Hiſtory.

All the hiſtories of countries that have been illuſtrious in very remote ages, are ſo blended with fable, that it is extremely difficult to ſeparate the true parts from the fabulous. The ſtories that had taken their riſe from real and not extraordinary facts, acquired ſomething of the marvellous, in paſſing from mouth to mouth, and being eaſily reduced from a ſimple to a figured ſtyle, it became at laſt almoſt impoſſible to bring them back to their original purity. At any rate, whenever any place, or town, is conſtantly mentioned, in ancient authors, as the theatre of ſome fabulous, or mixed event, from that period its hiſtory muſt be begun; endeavouring, by good criticiſm, to ſift out the exaggerated traditions, and admitting, as not void of truth, ſuch as appear reaſonable, and not contray to obſervations, or facts. *Orpheus*, *Callimachus*, *Apollonius*, *Lycophron*, *Strabo*,

* This *Oſero* is marked in the beſt maps; and not only it, but almoſt all the other places, throughout the vaſt empire of Ruſſia, have Slavic names, correſponding, ſometimes more, ſometimes leſs, with the Illyric, Albaneſe, Servian, Poliſh dialects, &c.

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Strabo, Mela, Pliny, Ptolomy, and ſeveral other ancient Greek and Latin writers, all agree in giving population and cities to the iſland *Apſirtis,* before the foundation of *Pola,*† a very ancient and

† *Pola* was an illuſtrious city, and reputed very ancient, even in the times of Strabo. All the geographers, and the ancient itineraries ſpeak of it as a conſiderable place; and many poets and hiſtorians make honourable mention of it. *Licophron,* and *Callimachus* ſpeak of a city of *Pola,* which had near it a deep river called *Dizero,* perhaps, from the lake through which it paſſed, whereof the part now remaining is ſtill called *Jeſero*; though many have thought, that the *Pola* in Iſtria was not the city meant by thoſe authors. However, as we find a conſtant tradition, among the moſt ancient writers, of a large river that ran into the ſea not far from *Pola,* and the veſtiges of it are manifeſt in the inland parts of Iſtria, and alſo in the adjacent ſea, I am of opinion, that the following verſes are to be underſtood of the Iſtrian *Pola* and no other.

Οἱ μὲν ἐπ' Ἰλλυρικοῖο πόρῳ χάσαντες ἐρετμὰ
Λᾶα παρὰ ξανθῆς Ἁρμινίης ὄφιας
Ἄστυρον ἐκτίσαντο. Τὸ μὲν φυγάδων τις ἐνίσσοι
Γραικὸς, αὐτὰρ κεινων γλῶσσ' ὀνόμηνε Πόλας.
Καλλιμάχου.

" They, reſting their oars in a ſtoney part of the Illyric ſea, not far from the " ſerpent of the yellow *Armonia,* built *Aſtrium* there; a name which ſome of " the Grecian exiles gave it, and in the language of the country it was called " *Pola.*"

The names of *Pola,* and the *Reipublica Polenſis* are found in ſeveral ancient inſcriptions. It became afterwards a Roman colony; and we are told, by ſome authors, that, in the time of the triumviral wars, it incurred the diſpleaſure of Auguſtus, and was pardoned by the interceſſion of his daughter; whence the people of *Pola,* through a ſentiment of mean adulation, changed the name of their city, ſo illuſtrous and venerable for its antiquity, from *Pola* to *Pietas Julia.* Many monuments and veſtiges of its ancient grandeur ſtill remain, though ruinous for the moſt part, and ſpoiled no leſs by time, than by the barbariſm of the inhabitants. The amphitheatre is celebrated, and ſtill remains almoſt entire: the funeral arch of *Sorgius*; and the temple of Rome and Auguſtus; and the noble ruins of the contiguous temple of *Diana,* now transformed into ſtables and kitchens of the publick places; and the remains of the bath, which now ſerves

and famous city in *Iſtria*; which, if built by the Colcheſians, as is the conſtant opinion of all the hiſtorians, muſt be thirty centuries

ſerves as a perennial fountain, and ſupplies the inhabitants of the city and neighbourhood with water in the greateſt drought. Greek and Roman coins of the good times, and Aquileian and Venetian of the middle times, are often found there, in gold, ſilver, and copper, as well as inſtruments, vaſes, and other ancient works. Many inſcriptions have been carried away, and many ſtill remain ſcattered in the ſtreets and rubbiſh, or thruſt without diſtinction into the walls, a good part of which was built of ancient ſtone, and may be called a mixture of frizes, cornices, ſtatues, columns, baſs-reliefs, and other pieces of wrought marble. The barbarous ignorance of the clergy of that place, buried, in the beginning of this century, a great number of ancient memorials in the foundation of the ſteeple of their cathedral; and the ſtupid indifference of the inhabitants permitted it. And thus they continue to permit any individual to bury whatever valuable piece of antiquity he meets with, in order to carry on his wretched building ſo much the quicker and eaſier.

There was alſo a theatre in former times, of which Serlius has preſerved the ruins in his books of architecture; and I have ſeen them likewiſe in a bad impreſſion of an old plan of *Pola*, done in the laſt century. It lay at the foot of the hill, which is ſtill called *Zadro*, or *Zaro* corruptly; the ſteps were placed upon the curvature of the hill itſelf, to ſave ſubſtructions. A French engineer, called Anthony Deville, deſtroyed theſe remains, which were ſingular in the world; and made uſe of the materials to build a fort on the top of a hill in the very middle of the city, in the year 1636. The ſame man had alſo undertaken to demoliſh the amphitheatre; and would ſoon have ruined it altogether, if the clemency of the ſovereign, at the inſtance of the inhabitants, who at that time did not exceed four hundred, had not made him deſiſt. But the damage begun by that enemy to antiquity was never repaired; and that magnificent monument of the grandeur of *Pola* threatens a diſſolution on one ſide, if not prevented in time. The work does not require much expence; the repairing of one arch, and a few other pieces would be ſufficient; but if it is left abandoned much longer, the conſequences muſt certainly be fatal.

The barbarous treatment of antiquitity continued ſtill at *Pola* after the departure of Deville, and after the death of thoſe who buried the inſcriptions in the beginning of the century. Not ſeven years ſince, in diging a well in a private houſe,

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centuries old; as the Colcheſians, in purſuit of the Argonauts, landed in the Adriatick, according to the beſt chronological

houſe, a ſubterraneous apartment was diſcovered divided into galleries by brick pilaſters, and all covered with ſlabs of Greek marble two palms broad, and about ſix long. The Viſigoth owner of the houſe barbarouſly filled it all up with the rubbiſh of his well, and made ſuch haſte to cloſe it altogether by a wall, that I did not get in time to ſee that ſubterraneous curioſity, though I was at no great diſtance. Another Vandal threw under ground a very well cut ſtatue near the apothecary's ſhop at the corner of the market place; and ſeven years ago, without one of the gates, a rill of water run under a *ſtatua togata* without the head; and it is now quite covered with earth. A few years ſince, many inſcriptions were buried in the foundations of houſes, which, however, were preſerved in writing, together with ſeveral ancient ſilver coins by *Signor Jacopo Lombardi* a gentleman of *Pola*.

The territory of *Pola* is very fertile, nor do we find that ancient writers find fault with it for the unhealthfulneſs of its air. The devaſtations, to which it was ſubject in the low ages, deſtroying its inhabitants, and thoſe of the country round it, were the cauſe alſo that the waters in the low adjacent grounds were neglected. And the biſhops, who, in thoſe times of anarchy and barbariſm, became proprietors of the neareſt, and moſt pernicious lakes to the city, never having taken any pains to give them an outlet, the air was rendered exceedingly unwholeſome, eſpecially in the hot ſeaſon, a calamity which they, as paſtors of the people, ought to have endeavoured to prevent of their own accord, at leaſt in this humane age, without waiting for orders from the ſovereign. Inſtead of making a canal of communication between the lakes near the city and the ſea, they, ſome years ago, very imprudently dug an outlet for the fountain, with the view of hindering the propagation of aquatick plants, which grew in great plenty, becauſe the bottom had never been cleaned to the depth of the ancient pavement. This canal communicates with the contiguous ſea, and, at high tides, ſerves to conduct the ſalt water which ſpoils the fountain, and hurts the health of the people, who are obliged to uſe it.

There were, in former times, many ancient ſepulchral monuments about *Pola*, and ſome ſtill remain on the ſouth ſide of it. *Dante* mentions them:

Si come ad Arli, ove il Rodano ſtagna,
Si come a Pola, preſſo del Quarnaro
Che Italia chiude, e i ſuoi termini bagna,
Fanno i ſepolcri tutto il loco varo. Inf. ix. v. 113.

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computations, about 1230 years before the birth of Chriſt. *Orpheus* only names the iſlands *Apſirtides*, and conducts his Argonauts, as we have already ſeen, through the *Palus Meotis*, and up the rivers into the northern ocean. But *Apollonius*, according to whoſe account the ſhip Argos made a leſs wonderful, and a ſhorter voyage, expreſſly ſays, there were two iſlands, on one of which there was a temple dedicated to *Diana*, and on the point of the other, near the ſea, the Colcheſians built a fort. I think it neceſſary to give a brief narration of this expedition, which is very circumſtantially deſcribed by *Apollonius*, as, from thence, the hiſtory of *Cherſo* and *Oſero* takes its beginning.

The Argonauts, knights errants of their age, or, in other terms, uſurpers of what belongs to others, either by force or fraud, formed the heroick project of getting, by conqueſt, the precious veſt, or whatever manufacture it was, which they called *the golden fleece*, the fame of which had reached Theſſaly, from *Cholchos*, where it was jealouſly kept. *Jaſon* being made captain of this adventure, embarked on board a ſhip, which could not be very large, accompanied by the moſt couragious young men of Greece, and, without meeting with any diſaſter, caſt anchor in *Phaſis*. *Medea*, the king's daughter, ſaw and loved him, and that circumſtance facilitated the conqueſt. The royal maid fled with him in the ſhip *Argos*. *Eeta*, the king of *Colchos*, her father, diſpatched warriours in purſuit of them every where, threatening his ſubjects, and making imprecations againſt them if they returned without his daughter. The Colcheſians had before that many ſhips, or barks, which proves, that *Jaſon*'s ſhip, though it might be the firſt that dared to paſs from Theſſaly to the black ſea, yet was by no means the firſt that ſailed the ſea. *Apſirtus*, the brother of *Medea*, and ſon of *Eeta*, was one of the captains of thoſe little fleets.

The

The Argonauts ſetting ſail with the golden fleece and with *Medea* from the river *Phaſis*, arrived in *Paphlagonia* the third day after. Not thinking themſelves ſecure in theſe waters, they held a ſerious conſultation about what courſe they were to take, in order to eſcape the danger of being taken by their purſuers: Hitherto there is nothing in the ſtory that can be called extravagant, or incredible. One of them, named *Argo*, who had ſucceeded *Tifes* as pilot, ſaid he had often heard of a very ancient voyage made up the Danube, and a branch of that river which led into the Adriatick ſea. This information came from Thebes in Egypt, and the prieſts of that country had communicated it to a Greek. In the way thither there was a city called *Ea*, where the intinerary tables of thoſe firſt navigators were preſerved.* The Argonouts therefore determined to return into

 Theſſaly

* Νεισόμεθ' Ὀρχομενὸν. . . .
Ἐςὶ γὰρ πλόος ἄλλος, ὅν ἀθανάτων ἱερῆες
Πέφραδον, ὅι θήβης Τριτωνίδος ἐγκεγάασιν . .
Ἔνθεν δή τινα φασὶ πέριξ διὰ πᾶσαν ὁδεῦσαι
Εὐρώπην, Ἀσίην τε, βίῃ καὶ κάρτει λαῶν
Σφωϊτέρων θάρσει τε πεποιθότα. μυρία δ' ἄςη
Νάσσατ' ἐποχόμενος, τὰ μὲν ἤ ποθι ναιετάουσιν,
Ἡέ, καὶ οὔ. πουλὶς γὰρ ἄδην ἐπενήνοθεν υἱιών.
Αἶα γε μὲν ἔτι νῦν μένει ἔμπαδον, υἱωνοί τε
Τῶν δ' ἀνδρῶν οἵς ὅγε καθίσσατο ναιέμεν Αἶαν.
Ὅι δή τοι γράπτις πατέρων ἔθεν εἰρύονται
Κυρβίας, οἷς ἔνι πᾶσαι ὁδοί, καὶ πείρατ' ἔασιν
Ὑγρῆς τε, τραφερῆς τε πέριξ ἐπινεισομένοισιν.
Ἔςι δὲ τις ποταμὸς, ὕπατον κέρας Ὠκεανοῖο,
Εὐρύς τε, προβαθύς τε, καὶ ὁλκάδι νηι περῆσαι.
Ἴςρον μιν καλέοντες ἑκὰς διετεκμήραντο . . . .
Ὅς ὁποταν θριηκων, Σκυθέων τ' ἐνιβήσεται οὔροις
Ἔνθα διχῇ τὸ μὲν ἔνθα μετ' Ἰονίην ἅλα βαλλει
Τηδ' ὕδωρ, τὸ δ' ὄπισθε βαθὺν διὰ κόλπον ιησι
Σχιζομενος πόντου τρινακρίου εἰσανέχοντα
Λαίῃ ὅς ἡμετέρη παρακέχλιται . . . . *Apollon. Argon. l. 4. v. 157.*

" We

Theſſaly by the way of the Danube, ſailing up the river till they came to its diviſion, or to the confluence of ſome other river, that runs into it, and had a communication with the Adriatick. In the meantime, the ſhips of *Colchos* were in purſuit of them. One of their ſquadrons, having entered the *Propontes*, and paſſed the Cianean rocks, or the iſlands *Simplegadi*, which in thoſe times were reckoned very dangerous, traverſed the Archipelago, ſteering the courſe which it was natural to think the Theſſalians would do in returning home with their prize; and landed in *Epyrus*. But the other ſquadron, commanded by *Apſirtus*, purſued *Jaſon* and *Medea*, and even got before them, in the ſame way that they had choſen; and having entered the Danube at one of its mouths, which baths the ſouth ſide of the iſland of *Peuce*, called alſo Καλον, got into the Adriatick before the Argonauts, who had choſen the northerly

"We will return to *Orchomenus*... For the prieſts of Tritonian Thebes "had taught the ſailors another road... And it is ſaid there was one of them of "old, who, by his own courage, and the valour of his people, had conquered "many cities in Europe and Aſia; ſome of thoſe are inhabited in our days, and "others are deſcribed; as many years have elapſed ſince the time of thoſe me-"morable old adventures. But the city of *Ea* ſtill ſubſiſts in its ſplendour, and "the deſcendants of thoſe ancient heroes which he had ſettled there. They jea-"louſly preſerve the table wrote by their anceſtors, in which the roads, by ſea "and land, over all our globe, are noted. And there is a river alſo recorded, "which runs into the innermoſt corner of the ocean; it is large and deep, and ca-"pable of bearing a loaded ſhip from one to the other ſea; it is called the *Iſter*, "and comes, with its name, from diſtant parts. But at the confines of Thrace "and Scythia its ample channel is divided into two branches, one of which runs "into the Tuſcan ſea, entering into a deep and ſeparate gulf which reaches be-"yond the ſea of Sicily, and is not far from our land."

Here it is proper to obſerve, that the ancient Greeks ſometimes called the black ſea *Pontus*, and the ocean; and confounded the Ionian and Adriatick ſea with the Tuſcan, as parts of it.

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therly mouth, and had loſt too much time in Palagonia. Hence it appears, that the navigation, from the black ſea into the Adriatick, by the Danube, was not only known at *Ea*, and Thebes in Egypt, but likewiſe at *Colchos*, where there were many ſhips and mariners. *

Jaſon and his companions, having arrived ſometime after inthe Adriatick, found the Colcheſians ſettled already in the iſland of *Cherſo* and *Oſero*, inhabited in thoſe remote times by *Brigii*, a Scythian race, allied to the ancient Phrigians, of whoſe emigration no written records could be expected to come down to us. *Apſirtus* had alſo built a fort, where the city of *Oſero* now ſtands. *Apollonius* goes on to relate the operations of the Colcheſians and Argonauts, after their arrival in the *Quarnaro*, in the following words: †

" Then

* ——————Κὸλχοι
Νῆας τ' ἐρύσαντο, καὶ ἄρμενα νηυσὶ θῶλον τε
Αὐτῷ δ' ἤματι πόντον ἀνηιον. οὐ δέ κε φαίης
Τόσσον νηίτην τόλον ἔμμεναι, ἀλλ' οἰωνῶν
Ἰλαδὸν ἄσπετον ἔθνος ἐπιβρομέειν πελάγεσσιν. *id. v.* 236.

" The Colcheſians hauled their veſſels into the water, and ſet ſail the ſame " day. Who would have imagined to ſee ſo large a fleet? they ſeemed more " like a flock of ſea fowl than ſhips."

† Δή ῥ' α τότε Κρονίην Κόλχοι ἅλα δ' ἐκπρομολόντες
Πάντη μή σφε λάθοιεν ὑπετμήξαντο κελεύθους.
Οἱ δ' ὄπιθεν ποταμοῖο κατήλυθον ἐκ δ' ἐπέρησαν
Δοιὰς Ἀρτέμιδος Βρυγηίδας ἀγχόθι νήσους.
Τῶν δ' ἤτοι ἑτέρη μὲν ἐν ἱερὸν ἔσκεν ἔδεθλον,
Ἐν δ' ἑτέρῃ πληθὺν πεφυλαγμένοι Ἀψύρτοιο
Βαῖνον. ἐπεὶ κείνας πολλὸν λίπον ἐνδοθι νήσους
Αὖτως ἀζόμενοι κῆρην Διος. αἱ δὲ δὴ ἄλλαι
Στεινόμεναι Κολχοισι πόρους ἔιρυντο θαλάσσης.

"Then the Colcheſians, entering the Cronian ſea, ſhut up "all the paſſages, ſo that the Theſſalians could not eſcape. But "theſe came down the river behind them, and arrived at the "two *Brigeide*, the iſlands of Diana. On one of theſe ſtood a "temple ſacred to the goddeſs, and the other contiguous to it "was guarded by a ſquadron of warriours of the valliant *Apſir-*"*tus*. The Argonauts, as ſoon as they came on ſhore, offered "their vows to the daughter of Jove; and in the meantime the "*Colchi* ſecured all the paſſes."

The inhabitants of *Cherſo* and *Oſero* had, before that, declared that they would give all poſſible aſſiſtance to *Apſirtus*, whoſe cauſe was doubtleſs juſt. And it appears that they were numerous and warlike; for Jaſon ſays of them "that there was a thick cloud of enemies around him on account of *Medea*; and that all the inhabitants of the two contiguous iſlands had become auxiliaries of *Apſirtus*." This is an inſtance of juſtice, and does much honour to the ancient Cherſines, and, at the ſame time, in a manner, contradicts the accuſations of piracy, that have been laid to their charge.* It is natural for robbers to protect one another, and not to make war among themſelves in favour of the robbed.

This

* ——δυσμενέων ἀνδρῶν νέφος ἀμφιδέδηεν
Εινέκα σεῦ. πάντες γὰρ οσοι χθόνα τήν δε νέμονται
Ἀψύρτῳ μεμάασιν ἀμμιννέμεν . . . v. 398.

After this juſt alliance with the Cherſines againſt the Argonauts, it cannot reaſonably be ſuppoſed that *Cherſo* was originally called *Crapſa*, derived from rapine.

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This alliance of the Cherſines with *Apſirtus* could not but diſcourage the Theſſalians, and *Medea* became afraid of falling a ſacrifice to the circumſtances. The young prince appeared inclined to come to honourable terms. *Medea* made uſe of this diſpoſition to bring about his ruin, and perſuaded *Jaſon* to accede to the treaſon. They made friendly preſents to *Apſirtus*, and, after many preliminaries, minutely related by *Apollonius*, they invited him to an interview. *Medea* landed at the place appointed for the conference, which was near the temple of *Diana*, on the iſland of *Oſero*; and the veſſel, that carried her, returned, leaving her alone in all appearance, but *Jaſon* had privately landed before, and lay in ambuſh. *Apſirtus*, entering the ſtrait in his ſhip, or rather croſing it over,* for, at that time, perhaps, it was leſs deep, and broader, than it is at preſent, landed at on the iſland of *Oſero* in the night. *Medea*, who was well prepared, gave him to underſtand a thouſand lies; and the ſimple youth began to be perſuaded, that he had concluded an honourable treaty, when *Jaſon* fell upon him ſword in hand. The deceitful woman turned about, and took no notice of what was going on. *Apſirtus* fell on his knees at the gate of the temple, and, before he expired, recollecting all his force, filled both his hands with the blood that guſhed from the large wound, and threw it at *Medea*, whoſe white veil and cloaths were all ſtained with it.† This tragic deed, we may ſuppoſe, happened not far from

* Καρπαλίμως ἦ νηι δι ἐξ ἀνὸς οιδμα τερήσας
Νυχθ' ὑπὸ λυγαίην ιερῆς ἐπεβήσετο νήσυ.
ver. 458.

† Τῆ ὄγ' ἐνὶ τροδαμω γνύξ ηριπε. λοίσθια δ' ηρως
Θυνε ἀναπνειων χερσὶν μελαν ἄμροτὲρησιν
Αιμα κατ' ὠτεινὴν ὑποισχετο. τῆς δὲ καλυπτρη

from *Neresine*, and perhaps the bones of the young prince, interred by *Jason*, lie in some obscure place thereabout. The island, as we have already seen, had a new name from the assassination and burial of *Apsirtus*, and was no longer called *Brigeide*, or the island of *Diana*, but *Apsirtis*. And perhaps the name of *Punta Sonta*, a small promontory, near the place where it is likely *Apsirtus* was assassinated, is derived from the same tradition, and passing from language to language. It is not impossible, that this point took its name of guilty from *Jason's* crime, as the *Voltone Scelleroto* at *Verona* did many ages after, and as a gate, a street, a field, or road, used to do among the Romans for analogous reasons.

Having lost their leader, the men of *Colchos* durst not think of returning to their own country, dreading the wrath of a cruel king, now irritated by a triple offence. In the confusion caused by this misfortune, which the Argonauts announced by a sudden attack, shewing that they were not used to pay any regard to a truce, or to make it with a fair intention, the Colchesians knew not what resolution to take. The Thessalians took advantage of this perplexity, and, crossing the Adriatick, landed on an island

Ἀργυφέην κ᾽ πεπτωλον ἀλευομένης ἐρύθηνεν.
Ὀξὺ δὲ παυδαμάτωρ λοξῷ ἰδεν οιον ερεξαν
Ὄμματι νηλειής ὀλοφωιον εργον ἐρινύς.

v. 472.

"The youth fell at the door of the temple, and then perceived he had been "betrayed by his sister whom he saw at some distance looking at him. He could "not speak; but tearing open his wound with his hands, he filled them with "the blood that gushed out, and throwing it towards her, stained her robe and "veil. The king of the gods turned his eyes another way, not to behold the "atrocious deed."

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iſland near the mouths of the Po. From thence forward their voyage has no connection with the iſland of *Cherſo* and *Oſero*.

When the Colcheſians were recovered from their aſtoniſhment, they reſolved to revenge, at all events, the death of their murdered young prince; and hence they made the requiſite diſpoſitions for purſuing the Argonauts. But *Juno*, who, according to the cuſtom of the ancient goddeſſes, and which is ſtill kept up by ſome of the modern, was a declared protectreſs of whoever was in the wrong, made an unjuſt uſe of her power to agitate the air; and ſent out every meteor that could retard or fruſtrate the intention of a ſea voyage. It were to be wiſhed, that all the fabulous parts of ancient ſtories could be explained like this partiality of *Juno*, which evidently means only a combination of ſtormy weather unfit for the navigation of the Colcheſians. They being afraid of the reſentment of the goddeſs, laid aſide their project altogether; and ſettled, in part, among thoſe iſlanders, whoſe rectitude and hoſpitality they had already experienced; and part of them removed to the neighbouring coaſt of Iſtria; ſome of them alſo ſettled in Dalmatia, and others repaired to *Epyrus*,* to join the ſquadron of their countrymen, who had landed there, and, fearing the fury of *Eeta*, had laid aſide all thoughts of returning home.

* Τάχα κ) τῦ Ἰάσονος μέχρι τῆς Ἰταλίας πλανηθέντος. δείκνυται γάρ τινα σημεια, κ) περὶ τα Κεραύνια ὄρη, κ) περὶ τὸν Ἀδρίαν, κ) ἐν τῷ Ποσειδωνιάτῃ κόλπῳ, κ) ταῖς πρὸς τῆς Πυρρηνίας νήσοις τῆς τῶν Ἀργοναυτῶν πλάνης σημεια. Στραβ. α.

"Perhaps Jaſon ſailed as far as the coaſts of Italy, as there are ſtill to be ſeen "the veſtiges and marks of the voyage of the Argonauts near the Ceraunian "mountains on the ſhore of the Adriatick, in the bay of *Poſſidonia*." The Ceraunian mountains are thoſe of the *Cimara*, ſo called by corruption, from the hill *Chimæra*, an ancient volcano, from which ſo many fables took their riſe.

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The fort of *Apſirtus* was built, by the young prince, on the ſpot where *Oſero* now ſtands, on the brink of the ſtrait; hence the inhabitants were called *Apſirtus*, and the contiguous iſland, where the temple ſtood, was called *Apſirtis*. There, no doubt, the Colcheſians began to have poſſeſſions, without meeting with any diſturbance from the people of *Cherſo*, who, on the north ſide of their city, muſt alſo have had poſſeſſions near them. It is probable, that, following the deſtiny of all the other iſlands, that of *Cherſo* and *Oſero* has been ſometimes free, and ſometimes ſubject before the Roman conqueſts. I find no authentick records of its hiſtory collected by any author, which perhaps is owing to the ignorance in which the iſlanders lived for many ages.

Lucio (Lib. 1. cap. 1. p. 2.) believed, that, without the poſſeſſion of the Liburnia iſlands, it would have been impoſſible for the people of *Adria* to have maintained the dominion of the gulf to which they gave the name, and in another place gives the proofs of this propoſition. He fixes the ſovereignty of the Tuſcans of *Adria* over the iſlands of the *Quarnaro* about the 359th year of Rome. It ſeems probable, however, that the Iſtrians, the Adrians, and the Liburnians were in poſſeſſion of that ſovereignty by turns; and that at laſt, after the taking of *Medolino* (*Metullium*,) or of *Caſtelnovo* (*Neſactus*) it paſſed to the Romans.* Near the city of *Oſero* there are ſtill remaining ſome veſtiges of Roman habitations, in the inſcriptions, and coins that are frequently dug up: and there are alſo veſtiges of the dominion of the Adrians

* V. Appian. *Alexand. de Bello Illyr.*

rians in ſeveral parts of the coaſt of Dalmatia, particularly on the iſland of *Leſſa*, where Etruſcan vaſes are often found.

In the times near the ruin of the empire, we find *Cherſo* mentioned by *Paulus Diaconus*, as I before took notice of, under the name of *Inſula Flanonenſis*, and the ſame author relates the death of *Gallus Cæſar* in theſe parts, by order of *Conſtans*, who was then at Milan.†

Attila, who did ſo much miſchief to Italy, carried alſo devaſtation and ruin to the iſland and city of *Oſero*, making uſe of the gallies of *Salona*, for that purpoſe.

After the decline of the Roman empire, *Cherſo* and *Oſero* changed maſters often; ſometimes being annexed to the Greek empire, ſometimes to the crown of Hungary, and ſometimes ſubject to the Bans, and the kings of the *Slavi*; but without any remarkable events to render it illuſtrious.

About the middle of the IX century, *Saba*, a captain of the Saracens, plundered the iſland; and it appears, by the chronicle of *Andrea Dandolo*, that, in 991, it was under the dominion of the Republick of Venice. The Doge *Pietro Orſeolo* II. landed there, and received honours as Lord of the iſland. It ſeems moſt reaſonable to fix the dedition of *Oſero* about this year. I have ſeen, however, in ſome Mſs. memoirs, that *Oſero* gave itſelf up ſolemnly to the republick of Venice in the year 1018. Such

† *Paul. Diac. lib.* 12. *Hiſt. miſc. Socrat. Hiſt. Eccles. l.* 2. *c.* 27. *Niceph. Calliſt. l.* 9. *c.* 32. *Sozamen.* l. 4. c. 6. See Note at page 368.

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a difference in opinions is a neceſſary conſequence of the barbarity of thoſe times.

In, or about the year 1130, *Guido Polani*, ſon of the Doge *Pietro*, was proclaimed count of *Oſero* by the people; and a ſon of the Doge *Vitale Michieli* was elected count not long after the year 1156. From the high rank of theſe counts, it is natural to conjecture, that the Venetians looked on this kind of ſovereignty as a matter of dignity and importance. *Lucio* (l. 4. c. 8.) inſinuates, ſomewhat maliciouſly, that the Venetians often elected thoſe counts, and not the people of the iſlands. I can aſſert, however, as a certain fact, that, from the year 1180 to 1304, the iſland in queſtion, was poſſeſſed, as an hereditary county, by the noble family of *Moroſini*, to which it came by *Daria Michieli*, who married *Ruggiero Moroſini*, ſon of *Domenico*, count of Zara, and nephew of the Doge.

This *Ruggiero Moroſini* had, before his marriage, the inveſtiture of the caſtle of *Cheſſa*, and its diſtrict, ſituated on the iſland of *Pago*, which was then under the Venetian dominion, the inſtrument ſtill exiſts made by the Doge *Sebaſtiano Ziani* in 1174. In 1202 *Daria Moroſini*, of the *Michieli* family, *by the grace of God counteſs of Oſero*, propoſed to the people of *Arbe*, to renounce her right to the caſtle of *Keſſa Veterana*, and its dependencies, on condition, among other things, that they ſhould elect her ſon Robert count of *Arbe*. And in 1203, *Ruggiero*, the huſband of *Daria*, is ſtyled, in a ducal letter of the Venetian hero *Enrico Dandolo*, who manifeſtly acted as having high dominion over the iſlands, Count of *Oſero*, *Abſarenſis Comes*.

Marino

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Marino Moroſini did homage to the Doge *Dandolo* in 1280, and the act is ſtill extant, as well as the others alluded to; and in 1283, the ſame Count *Marino*, in a writing of ſettlement with the inhabitants of Cherſo, is called *count* and *lord* of the diſtrict of *Cherſo*. This *Marino*, who commanded in the war of *Iſtria*, with a valour correſpondent to the iſſue of it, was the laſt hereditary Count of *Oſero* and *Cherſo*. He died in 1304, or a few months before. The people of *Oſero* petitioned the republick to ſend them a count or governor every two years; and *Andrea Daurio*, or *Doro*, was the firſt who went there in that character.* Since that period, the iſland has not ſuffered any conſiderable change; only it was greatly moleſted by the *Uſcocchi*, during the war which the Venetians were obliged to carry on againſt thoſe robbers. And here I cannot help obſerving, that *M. de la Martiniere* has not performed the part of a faithful hiſtorian, in ſaying, that this iſland was given to the republick of Venice, only in 1410; about which year, indeed, there are many records which ſeem to indicate the dedition, but they appear rather to prove only a confirmation or repetition of the reſpective acts of ſubjection and dominion, as may be reaſonably ſuppoſed from what I have already mentioned.

Of the Diviſion of the Iſland. Its Towns and Villages.

Cherſo and *Oſero* ought indeed rather to be called two iſlands united, than one iſland alone; but the channel of the ſea, that divides them, is ſo very narrow, that it can ſcarcely be reckoned any ſeparation at all. Some authors, and particularly *Farnabius*, as

* All the above mentioned documents, and many more, ſtill exiſt entire in the private and publick archives of the iſland; ſome of them are alſo printed in the work of *Lucio*.

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as may be ſeen above, believed, without the leaſt foundation, that there was a river in the iſland called *Apſirtus*. And *Cluverius*, imagining there was not only one channel near *Oſero*, but two more, towards the north point, ſays, that *Cherſo* and *Oſero* ought not to be called one iſland, but properly an aggregate of four iſlands; and he made out the four parts thus; *Cao*, † *Fareſina*, *Cherſo*, *Oſero*. Perhaps this very learned man has been deceived by ſome inexpert navigator; for, in reality, there is only one channel of the ſea, namely the *Euripus*, that divides the mountain and the reſt of the iſland from the ſouth part of *Cherſo*, and the city of *Oſero*, and they are joined by a bridge, at the city, which bears the ſame name.

I think I may be permitted to conſider both parts divided by the ſtrait, as one iſland only, on account of the contiguity, and artificial connection, as well as of the uniformity of ſoil, products, and inhabitants.

Cherſo, *Oſero*, *Loſſin grande*, *Loſſin picciolo*, *Lubenice*, and *Caiſole*, and the moſt conſiderable places of the iſland. *Nereſine*, *Orlez*, *Urana*, *Cacichi*, *Bellei*, *Uſtrine*, and ſome others, are only poor villages, or miſerable hamlets, inhabited by poor unpoliſhed people, without induſtry, and without bread. I ſhall ſpeak of the city of *Cherſo* in the laſt place, as moſt deſerving of notice.

Oſero

† Philippi Cluverii Italia antiqua. l. 1. c. 21. *Quatuor erant inſulæ Abſyrtides, quarum maxima ac media vulgo dicitur Cherſo: huic magnitudine proxima ab auſtro Oſero; reliquæ duæ ab ſeptentrionalibus Feroſina, & Cas &c.* In Blau's atlas the diviſion of the northern point is alſo marked, as it is in other maps of leſs value, which probably have been copied from him.

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Oſero, which had the names of *Apſyrtium*, *Apſoros*, *Auxerum*, *Auxeros*, and Ἄψορος, is the only town on the iſland, as far as I have hitherto ſeen, where memorials of noble antiquity are actually preſerved. It is built in a triangular form, on the point of *Cherſo*, which juts into the ſea in 32. 21. of longitude, and 44. 54. of latitude, and is bathed by the *Euripus*, which falls very rapidly, and flows up again in a few minutes. The geographer of the *Encyclopediæ*, ſays, "it is a city of Italy ſituated "on an iſland of the ſame name, in the Adriatick." The iſland of *Oſero*, however, is not in Italy; neither does the city of *Oſero* ſtand on the iſland that bears that name. Perhaps the *Chevalier de Jaucourt* copied this error, without further examination, from *de la Martiniere*'s dictionary; and *la Martiniere* probably took it from the inaccurate *Magini*.* Father, *Coronelli*, who wanted to do too many things, and therefore did few of them well, has however ſet this city in its right place; and this is one of the few occaſions, in which that good eccleſiaſtick has choſen the right ſide, between two contrary opinions. The French geographer, therefore, choſe a very improper time to reflect, in ſevere terms, on Father *Coronelli*, becauſe he had placed *Oſero* in its true ſituation. *Echard* likewiſe in his geographical dictionary, and his tranſlator *M. Voſgien*, believed that the city of *Oſero* ſtood on the iſland of that name. And many years before them, *Abraham Berkley*, the commentator of the compend of *Stephanus Byzantinus*, † by an oppoſite miſtake, believed firmly, that

* *Magini* probably took this error from *Domenico Mario Negro*, a geographer of the 15th century, who has it in his VI. *comment geograph.* depending on Ptolemy, and not remembering Mela.

† V. *Diction. geograph. hiſt crit.* de la Martiniere, art. *Oſero*, & Echard dict. geograph. *ab Anglico idiomate in Gallicum tranſl.* opera D. abb. de Voſgien.

Ἄψορος πολις Ιλλυριας. Ηρωδιανος ογδοη. Steph. Byzant.

Oſe

that no ſuch city as *Oſero*, now exiſted, leaving ſcarcely room to ſuppoſe, that, on the iſland of the ſame name, there had been ſuch a city in ancient times.

Oſero at preſent contains only two hundred and fifty inhabitants; ſo that the apothecary there is alſo the advocate, and the phyſician follows the plough. We were much pleaſed with the Doctor, who, by cultivating a barren field, was endeavouring to make amends for the miſchief his medicines may have done; but we thought that the apothecary might have been ſatisfied with one hurtful profeſſion.

The air of *Oſero* is quite peſtilential in the heat of ſummer; and the cauſe is obvious; there being near the walls, ſeveral pools of brackiſh water, which, through the ignorance, negligence, poverty, and ſmall number of the inhabitants, have no outlet, and ſo become putrified together with the reeds and inſects. Some have attributed the unwholeſomeneſs of the air to the vicinity of the mountain which interrupts the free courſe of the wind; but had they been ſtopt there for ſeveral days by the fury of the wind, they would not have thought ſo. The cauſes of the malignancy that infects the atmoſphere, are viſible in the neighbouring fields, and under the very walls; and it is truly melancholly and painful to ſee a city well ſituated, and populous in other times, now reduced to ruin, and almoſt uninhabitable by an evil that might be eaſily removed. There are even ſufficient funds in the place itſelf to defray the ſmall charge that would be requiſite. Several good ſimple benefices are annexed to the church of *Oſero*, which hitherto have rarely ſerved

On which Berkley writes the following note:

In ea noſter vehementer fallitur quod urbem hoc nomine ſtatuat.——Niſi exiſtimes in iſthac inſula urbem ejuſdem nominis extitiſſe.

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ſerved any other end, than to reward ſervices done to a foreign Court, and perhaps ſometimes to the prejudice of the paternal maxims of the Venetian government. It is to be wiſhed that the time were near when the hand of the ſovereign ſhall interfere, and turn theſe benefices to the relief of the afflicted people, and to the redemption of that unhappy place. Surely the uſe of theſe ſacred revenues might very laudably be applied to the advantage of the people, to whom, by right they belong. Abuſe, and preſcription can never render poſſeſſion legitimate to thoſe who do nothing in behalf of the languiſhing population of *Oſero*, though they enjoy their ſubſtance which in happier circumſtances were piouſly offered, and to labouring miniſters. The deſcendants of thoſe good chriſtians now form a ſqualid and miſerable flock, from whom even their own biſhops keep at a diſtance, with non-apoſtolick example; notwithſtanding, it is evident that a little money circulated, with charity and attention, would be ſufficient ſtill to free *Oſero* from malignant infection, and enable it to acquire freſh vigour, and a population more proportionable to the ſituation in which it was built with excellent deſign.

The ſkeleton of a city, where perhaps there are more ruined and uninhabited houſes than inhabitants, had the title of Biſhoprick ſince the time of *Budimiro*, the firſt Chriſtian king of Dalmatia. Its cathedral is a ſolid fabrick, and the front of it is not in bad taſte; the ſteeple is alſo magnificent, and not of bad architecture. The Saracens deſtroyed and burnt this place about the year 840, and ſince that time it never recovered itſelf.

In former times the people of *Oſero* had many privileges, as all the other people were uſed to have, who ſubjected themſelves

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ſpontaneouſly to any prince; but they are now almoſt all loſt, through the decay of population. Yet in this place, where every thing that contributes to the pleaſure of life is wanting, the archdeacon *Sovich* lives contented with a philoſophical mediocrity. He is a man diſtinguiſhed for true piety, as well as for his profound knowledge of the ancient Illyric tongue, and his cordial hoſpitality.

Loſſin Grande, called *Loſſinium* in the records of the middle times, ſtands on that part of the iſland which has the name of *Oſero*, towards the ſouthern extremity: it contains about fifteen hundred inhabitants, among whom are many commanders of ſhips. The houſes are ſufficiently well built. They diſtil a quantity of ſtrong liquors, which are little or nothing inferiour to the beſt in Dalmatia.

Loſſin Picciolo, a few miles diſtant, is built on the curvature of a hill which forms a very narrow iſthmus. The houſes lie towards the ſouth eaſt, around the harbour called the valley of *Auguſtus*, from an old tradition, that that emperor wintered there with his fleet. They form a very agreeable amphitheatre from the top to the bottom of that half-moon. Every houſe has its little garden, where the odour and verdure of the orange trees continue the whole year round. This alternation of houſes and verdure revived the idea, which, by reading the travels of the celebrated *Andrea Navagero*, in Spain, I had conceived of the Moreſque habitations, which, when that gentleman went Ambaſſador, were not altogether deſtroyed in that kingdom. The inhabitants of *Loſſin Picciolo* amount to about ſeventeen hundred. They cultivate their little hills with ſome degree of induſtry, though in that reſpect, they are far inferior to the inhabitants

habitants of *Cherſo*. Many of the inhabitants are employed in the fiſhing, and at ſea. The women are extremely robuſt, and accuſtomed to carry very heavy burdens on their head, as well up hill as down.

The people of this country are generally quite the contrary of cleanly, and the children particularly are quite loathſome. The ſmall pox did great deſtruction not long ago, and the marks that remain on a great number of perſons, have deformed them in an unuſual manner. We thought the inhabitants of *Loſſin Picciolo* were no great lovers of ſtrangers; and this is perhaps the effect of a habit of thinking of gain on every occaſion. The want of hoſpitality is the general defect of commercial countries, as on the contrary, the moſt generous and cordial hoſpitality is practiſed by nations deprived of commerce. The iſland, at this place, is not a mile in breadth. At the eaſt end of it, there is a church of *S. Martino*, which has a good picture on the great altar.

Lubinice and *Caiſole*, are at preſent villages of little conſideration, though they were more remarkable in paſt ages. They have two collegiate churches officiated in the Illyric language. *Caiſole* muſt have been a place of importance in the time of *Tiberius*, as various inſcriptions are found there, and ſome of them illuſtrious. It is probable there have been many more which are now buried under the rubbiſh. It would be to little purpoſe to take notice of the other villages ſcattered over the iſland. In theſe, a poor prieſt, learned in proportion to his riches, directs the ſpiritual concerns of a meager, ſtupid flock of ugly, poor, lazy people. The churches are miſerable and ill kept, nor could they well be diſtinguiſhed from ſtables, if they had not a kind

of altar, and a wretched belfry. The paſtors would more readily inſpire fear than devotion, if the good nature of the nation did not ſecure a ſtranger who meets them.

Of the City of CHERSO.

The city of *Cherſo*, about a hundred and fifty miles diſtant from Venice, is ſituated on the weſtern part of the iſland, long. 32. 25. lat. 45. 8. at the bottom of a large harbour, capable of containing any fleet; it lies at the foot of a chain of hills, which extend along the ſea ſide, forming many ſinuoſities. The governor reſides here; and uſually, at leaſt for ſeveral years paſt, the biſhop alſo, who ſcatters, at a diſtance, paternal benedictions, and ſpiritual ſuccours, on his unhappy, ſickly, and hungry flock at *Oſero*. The number of inhabitants in the city of *Cherſo*, is above three thouſand. Its ancient name Κρεψα, *Crepſa*, is not found mentioned by any author before Ptolemy; Pliny calls it *Crexa*, or at leaſt the *Crexa* of Pliny is thought to be *Cherſo* by many writers; which I ſhall neither contradict nor affirm.

Among the 3000 inhabitants which it contains, there are about 120 eccleſiaſticks, including a covent of friars, and a monaſtery of nuns; too large a number indeed, in a country where hands are ſo ſcarce. Among the houſes too, there are an exorbitant number of little churches in the Greek faſhion. It were to be wiſhed, that theſe ſerved at leaſt for lodging to ſtrangers, as they do* in the Archipelago. In that caſe they would become much more uſeful than they are at preſent; as there is no publick place of lodging in the city, and ſtrangers are obliged to diſturb ſome courteous inhabitant, whoſe civility they can hardly hope to

* V. Tournefort, *Voyages du Levant*, T. 1. p. 336.

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to return. In the whole iſland there are, I ſuppoſe, above two hundred of thoſe chapels, ruinous for the moſt part, naked, miſerable, and officiated rarely or never. Their titular ſaints are venerated under the moſt ugly aſpects that can be imagined. They are repreſented either by ſtatues of rough ſtone, or of wood, worked out of all proportion and human likeneſs. Yet ſtill the low people pay the greateſt devotion to theſe deformed monſtrous figures, and it would be dangerous to endeavour to deprive them of thoſe objects of ſuperſtition.

Thoſe who cannot reliſh this groteſque taſte of popular ſuperſtition, will be pleaſed to ſee a very fine picture in the great altar of the cathedral of *Cherſo*. *Andrea Vicentino*, who painted here the miracle of the ſnow, has made an excellent work, and far ſuperior to his others. The glory, in particular, is highly finiſhed, and full of expreſſion.

The ſtreets of *Cherſo* are generally narrow and dirty, which not only does diſhonour to a town of ſome conſideration, but is alſo prejudicial to the inhabitants. Though the air is very good and wholeſome, the ſtench of the common ſewers not properly minded, and the introduction of a ſhallow baſon of ſea water within the city, called the *Mandrachio*, exhale ſuch fetid vapours, as may eaſily become pernicious in the hot ſeaſon. To theſe two nuiſances may be added the two ſtinking pools called *Razziza* and *Cruſſia*, kept open by the people, notwithſtanding their corruption, becauſe in former times, they were fountains of good water. It would be a great benefit to the city, if the government ordered the *Mandrachio* to be deepened and cleanſed; and a trial to be made if the two pools could again be rendered uſeful; or if not, to be ſhut up.

In

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In ſo numerous a population, which goes on increaſing every year, as well through internal cauſes, as by the acceſſion of foreigners, invited to live under the mild government of the republick, there is a very ſmall number of beggars. The people of *Cherſo* is generally very well clothed, according to the cuſtom of the country, not ragged and naſty as in many of the neighbouring places. Their cloaths are made of a coarſe dark coloured cloth, as all the Illyrians uſe to wear; a cuſtom kept up for many ages, and taken from the Scythians, their anceſtors. In the time of *Herodotus*, a part of the Scythians were called μελανχλαινοι, that is wearers of black cloaths.

The moſt dangerous diſtemper at *Cherſo*, is the dyſentery, which ſometimes makes great havock on the iſland. In general, however, the people are healthy, and of good conſtitutions. Probably their aſſiduity in working, together with the goodneſs of the air, contributes to maintain them in this ſtate. The children of the low people are employed from their tendereſt age, either in cultivating the land, fiſhing, or attending the cattle. Many are employed in the manufacture of *Raſcia*, which is a coarſe kind of woolen ſtuff, and perhaps takes its name from *Raſcia*, where it forms a conſiderable branch of trade. The ſpirit of economy is one of the principal characters of the mothers of families at *Cherſo*; and ladies in the eaſieſt circumſtances, do not think it below them to overlook their domeſtick affairs; their cuſtom is to riſe with the day, and they reckon idleneſs an infamy.

Among the chief families of the iſland, are thoſe of *Colombis*, *Bocchina*, *Moiſe*, *de Petris*, *Zambelli*. They are all equally hoſpitable and courteous, of which, during our ſtay there, we had ſufficient

ſufficient proof. Theſe iſlanders not only preſerve the cuſtom of wearing dark coloured cloaths, like their progenitors, but alſo the ancient modes and ſocial virtues. Kindneſs to their gueſts, honeſty, and piety formed the character of the Illyrians two thouſand years ago, of which the moſt ancient of the geographer poets has left us his teſtimony.*

There being no public ſchool at *Cherſo*, learning is not much cultivated. Yet there are ſome learned eccleſiaſticks among them; and Dr. *Artico*, a phyſician, does honour to the city, though not born there, by his learning, as well as by his ſincerity and eaſineſs of manners. Perhaps the want of a ſchool contributes in part to maintain the indocility of which that people is accuſed; and other particular cauſes, which are foreign to my purpoſe, concur now and then to enforce it.

The Slavii, or Sclavonian language, which is more widely diffuſed than any of the other European dialects, is commonly uſed by the people, and the peaſants of the iſland, and they ſpeak it in a manner not inelegant. Many words and phraſes, analogous to the Greek, are met with in common diſcourſe, as *daite mi malo piti*, "give me ſomething to drink", which ſeems nearly allied to δῶτε μοι μᾶλλον πίνειν; *trapeza*, a table; *mys*, a mouſe, *alli*, but; and *ſiromah*, poor, which ſeems taken from the greek ἴρος. They alſo uſe the greek τί for interrogation, as *ti ſmiete*? why do you laugh? And they have articles, increments,

* ——θεοσεβεῖς δ' αὐτὸς ἀγαν,
Καὶ σφοδρα δικαιους, φασι, καὶ φιλοξενους. Seymnus Chius, *inter Geograph. min.* Hudſon.

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ments, the dual number, and other analogies to the greek ſyntax. *

The

* The Slavic nation and language are the moſt extenſive of any in the known world. From Carniola to the fartheſt confines of the Ruſſian Empire one may travel with this language alone, and for a large breadth of country. All the nations of Scythian original (if the remoteſt antiquity of origin does not alter the rule) uſe dialects more or leſs different, but who all have common roots; and the languages of all the countries over which the deſcendants of the Scythians ſpread themſelves, carrying war and deſolation along with them, and founding new kingdoms, adopted many of their words. Hence we meet with a conſiderable number of words in the Italian language, of which we know not either a Latin or Greek root, and which have it in ſome of the Scythian dialects. They have either been brought, in very remote times, by the firſt inhabitants, or more probably by the Goths, who were *Geti*, before they removed from their native country to the north, from whence they came to us. And as many of their words remained in Italy, ſo there are alſo many, more or leſs altered, in the countries beyond the mountains, which they invaded, and poſſeſſed in the low ages. The Engliſh, French, Spaniards, Germans, Swedes, and Danes, find traces of the Scythian language much more manifeſtly in their idioms. That the Germans alſo were deſcended from the Scythians was the opinion of the great Leibnitz, who uſed to call them *vagina gentium*

The Greek, and the Latin which was derived from it, have both a great number of words which might be demonſtratively proved of Scythian original, and not communicated from Greece to the Scythians; and therefore, to endeavour to find out the origins of that language, of which the plaineſt veſtiges are met with in all the living, and dead languages proper to Europe, would be an undertaking full of difficulties, which would require very great ſtudy and fatigue, and the reſult could not be contained in a moderate volume. The emigrations of the Scythians did not begin where hiſtory begins, but long before it. The *Veneti*, for example, whoſe name originally is ſynonimous to that of *Slavi*, and equivalent to *glorious*, had given the denomination to ancient Venice, long before the new irruptions of the Scythians came to diſturb them; and the time of their arrival is not known. It is, however, by many ages, anterior to the ſettlement of the *Venedi* on the coaſts of the ocean, and of the *Windi* on the borders of Liburnia. The Slavic, and Illyric language has two alphabets. The firſt is called glagolitic,

The number of inhabitants in the iſland of *Cherſo* has probably been more conſiderable in former times than it is at preſent.

golitic, from the letter G, called *Glagoglie*, and in our times, is uſed only in the ſacred books. The Abbe Cemente Count Grubbiſch has illuſtrated it, in a treatiſe full of erudition and good criticiſm; and I have availed myſelf of many of the remarks of that learned writer. He makes it the ſame as the Phrygian, and ſupports his opinion by ſeveral good reaſons; the invention is aſcribed by Cicero to Hercules the Egyptian, or, according to Herodotus, to Atlas who was ſtill more ancient. The old Glagolitic had only eighteen elements, like the ancient Phrygian, and the Greek. It probably paſſed from the vaſt extent of Scythia to Phrygia, Greece, and the northen countries; and it is obſervable, that the order of the Glagolitic correſponds almoſt exactly to the Greek; and ſeven of its letters are actually the ſame in figure and ſound as ſeven of the greek alphabet uſed in the moſt ancient times in Greece. Hence it comes to paſs, that the Runic alphabet, brought in all probability, by the *Geti* into the north, agrees in the number and ſound of the ancient Ionian letters; and there are ſeveral greek elements in it, as well as in the Glagolitic. Among others there is the H, not as ἦτα, but an aſpiration, as it was reckoned in the Greek provinces in very old times till the XCIV olympiad. This letter H with only its primitive tone of aſpiration, together with an ancient Π, which much reſembles the Glagolitic, and poſterior Runic, is ſeen in the celebraeed inſcription of the column of *Milos*, which probably is of anterior date to the LX olympiad, preſerved, with many other Greek and Latin monuments, by the noble Venetian Cavalier and Senator *Jacopo Nani*, equally loved and eſteemed for his ſocial virtues, learning, and military ſkill and valour. This promiſcuous ſimilarity of letters, and communion of words and ſyntax between Scythia and Sarmatia, and Denmark and Sweden, the leſſer Aſia, and the Archipelago, inſtead of convincing me that it was derived from greek travellers and traders in remote times, rather makes me ſuſpect, that it paſſed into Greece, as well as many other parts of Europe, by means of the Scythians, who were conſtantly emigrating, invading and ſeizing the ſubſtance and poſſeſſions of others. Finding moreover that many words Latin, Greek, and Italian, are, as it were, iſolated in the reſpective languages to which they belong, and, in the Ruſſian, or ſome other Scythian dialect, are accompannied by all their derivatives, which is a proof of originality and antiquity, I am more and more confirmed in what I juſt now alledged, and my ſuſpicion is changed into opinion:

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The ruins of habitations ſcattered over the iſland evidently prove this. There was a time, however, when the whole iſland had only

and this is further ſtrengthened by the reſpectable teſtimony of thoſe authors, who attribute the origin of the Tuſcans, and conſequently of thoſe people who deſcended from them, to emigrated Scythians. Father Perron in 1699 had collected above twelve thouſand latin names manifeſtly derived from the Scito-Celtic, either by way of the Greeks, or through the *Umbri*, or *Oſci*, races of the Celti.

It is a thing worthy of obſervation, and perhaps ſingular in its kind, that the denominations of the Glagolitic letters are diſpoſed and choſen in ſuch a manner as to give them a ſenſe, and thereby to include two very important ſentiments, *Az, Buk, Vid, Glagoglie, Dobſo, Jeſt, Xiveto, Zelo, Zemglie, &c. I, God, Food, I ſpeak, a good thing, it is, the life of, country, earth*, &c. Thoſe *Nomadi* had need of ſuch an advertiſement, to induce them to cultivate the ground.

The Cirilion alphabet has alſo much of the Greek in it; but the exterior figure of the elements does not always agree with their ſound. The Ruſſians make uſe of it in their books, coins, and in private writings. Many of our Illyrians, eſpecially thoſe of the Greek rite, likewiſe uſe it. Several men of learning have wrote concerning the Illyric or Slavic tongue, its origin, extent, perfections, &c. The Raguſcan friar *Dolci* derives it at once from the tower of Babel; and ſo takes the moſt religious, and ſhorteſt way of accounting for it, in his book *De Illyricæ linguæ amplitudine et vetuſtate*, Ven 1754. Conrad Geſner will have it to come from the German tongue, and ſeems too partial to his own country, in his work *de differentiis linguarum*. The great Leibnitz thought that the many words analogous to the German, which are ſcattered in the Greek, and even in the Perſian, ought to be derived from the *Teutoni*, whom he acknowledges were primitive Scythians, and always in alliance with the *Celti, Galli*, and other Scythic nations. But it may be gathered from what he himſelf writes, that the *Teutoni* brought thoſe words from the Black Sea; and ſpread them over the internal parts of the continent, but did not carry them from thence to the Black Sea. Of all the authors who have wrote on this ſubject, none, in my opinion, has treated it with ſo much good ſenſe and erudition as the learned Abbè Grubbiſch, in his diſſertation publiſhed at Venice in 1766, by Paſquali, entitled: *Diſquiſitio in originem & Hiſtoriam Alphabeti Slavonici-Glagolitici, vulgo Hieronimiani*. Beſides thoſe already mentioned, many others have wrote concerning this matter, eſpecially foreign anthors, among whom the following merit particular mention, Herbeſtein *de rebus Moſcoviticis*;

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only five thouſand inhabitants; about the year 1640, it had five thouſand ſix hundred; at preſent, the population of the iſland greatly exceeds eight, and perhaps amounts to nine thouſand. The augmentation is conſiderable in proportion to the ſhort term of years which produced it.

Of the nature of the ſoil of the Iſland.

The ſoil of both parts of the iſland is in general mountainous, and ſtoney. There are large tracts of ground entirely ſtoney, barren, and naked to a degree, which helps to form an idea of the eaſtern deſerts, in which all is parched, ſteril and deſolate. It

Moſcoviticis; Brerewood *de ſcrutinio religionum*; Jo. Leonard *Friſchius* in his diſſertations *de Hiſtoria linguæ Slavicæ*; Abr. *Frenzelius*, who wants to have it derived from the Hebrew; Edward Barnard, who has wrote a diſſertation *de convenientia linguæ Britannicæ cum Slavica*, quoted by Loeſcher in his *Litteratura Celtica*, which makes a part of the book *Orbis Eruditi Litteratura a charactere Samaritico deducta*. Oxon. 1689. fol. Jo. *Erbinius*, who in the *Cryptæ Kiowienſes*, &c. Jenæ 1675, alſo thinks it deſcended from the Hebrew. Kirchmayer, who printed a treatiſe at Wirtemberg in 1697, *de lingua Slavonica*; Martin Gujabove de Razize *de utilitate linguæ Slavonicæ*; and laſtly, not to mention many others, Jo. Pet. Kohlio who wrote a treatiſe concerning the *Storia Letteraria degli Slavi*. Albonaviæ 1729. I have taken the greateſt part of theſe informations from the valuable annotations of the noble and learned Count Trifone Wrachien, conſultor of the moſt Serene government, who very generouſly contributed to reduce this work into form.

I have found, on a very curſory ſearch, the following words uſed in our vernacular, and in the Tuſcan dialect, which have a near relation to the Ruſſian and Servian; and am fully perſuaded that many thouſands of the roots of Italian words might be found in the various dialects actually ſpoken by the Slavic nations.

From which are derived our vernacular words: *miro*, *trozo*, *ſgargajo*, *britola*, *tetta*, *ſbiro*, *ſcorabbiar*, *tochio*, *Poleſene*, *banchi*, *polegana*. *gondola ſvodar*, *mutria*; and the Tuſcan words, *botiglia*, *ceppo*, *nocca*, *muſchera*, *ſtravizzo*, *batocchio*, *caleſſe*, *baſtardo*, *ghiotto*, *pantofola*, *ſeſte*, *oſtaggio*.

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is probable, that the Greeks of the low times changed the ancient name of the iſland into that of *Cherſo*, Χερσος, induced by the aſpect of thoſe tracts of abandoned country. The largeſt of theſe deſerts is a level ſurface of hills five miles in length, from *Orletz* to *Vrana*, along the road that leads to *Oſero*. The inhabitants call thoſe places *Arabia Petrea*. They furniſh, however, excellent feeding for ſheep, which crop the graſs and ſweet herbs that grow between the ſtones, and thereby become not only exceſſively fat, but give milk uncommonly rich and of exquiſite taſte.

The *Arabia Petrea* of *Cherſo* produces the ſame kind of ſhrubs that are uſually found in ſtoney and mountainous ſituations. Bruſhwood and thorns are thick there, but very low, and withered towards the north eaſt, whence the wind blows, with fatal violence, from the mountains of *Morlacchia*. On that ſide the junipers, and other plants are equally hurt and kept down. Where the plain inclines a little towards the ſouth, the plants are covered from the blaſting wind, and thoſe which are only ſhrubs in the expoſed ſituations, grow there to the height and thickneſs of trees. The trunk of a juniper is often above a foot in diameter, though growing among ſtones; other ſhrubs grow alſo to a proportionable ſize. Over the whole extent of the tops of the mountains, which run longitudinally from N. E. to S. E. forming as it were the backbone of the iſland, there are but very few trees, and thoſe are all bent by the violence of the wind, which blows moſt in the ſeaſon when the ſap begins to circulate.

Rara, nec hæc fœlix, in apertis eminet arvis
Arbor, & in terra eſt altera forma maris.

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The top of a *Fillirea* is often ſix or eight cubits diſtant from the foot, and not more than two or three above the ground. The ſap, interrupted in its natural courſe by little branches withered by the wind, ſends forth a number of ſmall ſhoots by the ſides of thoſe blaſted the year before; and theſe are deſtined to wither in their turn when the windy ſeaſon returns. The trees on thoſe heights ſeem as it were accuſtomed to theſe viciſſitudes, and maintained by art. The ſame wind which blows with periodical impetuoſity has, without all doubt, co-operated more than any other cauſe to change the ſuperficies of the tops of the mountains, by pulveriſing the earth, and carrying it away; at leaſt whatever the heavy rains had left behind, after the extirpation of the ancient woods, which probably covered the hills of the iſland in more remote ages. *Scymnus Chius*, ſpeaking of the iſlands of the *Quarnaro*, in the above cited verſes, ſays, "that "they had an excellent ſoil, that neither ſnow nor ice continued "long there, but the rains were frequent and plentiful, and ſud- "den ſhowers ſometimes fell, which maintained a fertile freſh- "neſs and moiſture in the ground". It is very probable, that the vapours being intercepted by the woods now rooted out, and the moiſture preſerved by means of the leaves and roots of the trees, the fields below were always kept cool, and well watered. The iſland at preſent ſuffers from a ſcarcity of water, at leaſt, for the irrigation of the fields, though there is ſufficient plenty in the wells. At a little diſtance from the city of *Cherſo* there is a conſiderable fountain, which riſes at the foot of a hill, and almoſt immediately loſes itſelf in the ſea. It is commonly called the fountain of the Turks, becauſe the merchants of that nation, who come to trade in the iſland, uſually go there to perform their legal ablutions. Five miles from thence there is another called

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called the fountain of St. *Biagio*, but not ſo conſiderable as that of the Turks.

The ſtones with which the higher parts of the iſland are covered; though they are all of a calcareous ſubſtance, have one diſadvantageous quality. They are generally equal in hardneſs to the moſt compact travertine marble, or the common marble of *Iſtria*; but they do not yield much to time, or the action of the meteors; ſo that, in a reaſonable courſe of years, they cannot be diſſolved, or produce an acceſſion of marly earth fit to correct, or meliorate, the ſtiff reddiſh irony ſoil, which is the moſt common. In ſome parts, however, there is a better kind of earth, at the foot of the hills, and on the heights alſo, in ſome uneven tracts, where the force of the winds is interrupted, and the declivity formed in ſuch a manner as not to carry off all the rain water, but rather to render it beneficial. The part of the iſland that lies towards the weſt has greater plenty of trees, and is leſs expoſed to the wind; conſequently the land is better, and of greater depth: but they ſay the air is not very healthful; and probably it is true, on account of ſome ſtanding pools, and the too great humidity of the ground. And here it is to be remarked, that, commonly, the ignorant think nothing leſs than a large lake is capable of corrupting the air, and of conſequence ſmall pools, or damp fields are little minded: a pernicious prejudice, and of very bad conſequence to thoſe who ignorantly neglect the ſmall beginnings of great evils.

Of the Cultivation of the Iſland.

The hills to the northward are woody, and not well adapted to cultivation. The plains alſo on that part of the iſland that are

are fit for the richeſt products, are often abandoned and uncultivated through the want of a ſufficient number of inhabitants. On the other ſide of the channel of *Oſero*, the hills are leſs rocky; but the mountain, from the middle upwards, is totally ſteril, and produces nothing but wild ſage. The perpendicular height of this mountain is not, I believe, above the third part of a mile; but lying iſolated, it is quite expoſed to the fury of the winds. On the top of it, in former times, a hermit uſed to dwell; but the hermitage is now deſerted, and it is open to view around; being the higheſt place in the *Quarnaro*. It would not perhaps be in vain to look, on the ſides of this mountain, for the veſtiges of the ancient temple of Diana, which gave name to the iſland, and of which *Apolonius* of Rhodes ſpeaks.

The ſmaller adjacent iſlands have ordinarily a ſhallow ſoil, and are rarely cultivated, or have any particular proprietor. No ſmall part alſo of the lands of *Cherſo* and *Oſero* is in the ſame condition; and the firſt occupier enjoys their ſpontaneous wild fruits. Beſides the ground called common, which at preſent renders nothing at all, though it might become of great value if properly cultivated, even the large poſſeſſions which belong to the proprietors of lands, now neglected and barren, might be rendered rich and fertile by a ſufficient number of hands, and proper culture.

The valley in which the city of *Cherſo* lies, is naturally no better than the reſt of the iſland; and, in all appearance, if it were abandoned, would ſoon become ſtoney, barren, and horrid, like the hills which riſe on the ſide of the harbour, at a diſtance from the habitations, and are equally deprived of the improvements of art, and the favours of nature.

One

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One of the moſt beautiful proſpects, that a lover of agriculture can ſee, is the country that preſents itſelf on entering the bay of *Cherſo* from the ſea. My learned friend Mr. Symonds, who had viſited all Italy in a moſt attentive and particular manner, with a view to examine the methods of cultivation in the various provinces, declared that he had not ſeen any where among us ground managed with a greater degree of induſtry. The variety of verdure of the olives, vines, and corn fields, which at a diſtance, form one field pieced out in gradations of different colours, is a delightful ſpectacle beyond all expreſſion. Between one piece and the other of cultivated land no neglected part is ſeen. The aſperity of the rocks, and the ſteepneſs of the hill did not diſcourage the laudable induſtry of the inhabitants, who have formed all round their city a garden equally pleaſant and uſeful. This ſpectacle, which pleaſes at a diſtance, ſurpriſes when near. It would be well indeed to ſend to ſchool at *Cherſo* the ſons of our lazy and careleſs peaſants, who inhabit the delicious and too rich hills of the Venetian continent *Cherſo* deſerves to be there Athens; for there, example, if nothing elſe, would ſhow them, that no ſoil is ſo ſtubborn, which induſtry, diligence, obſervation, and neceſſity, the mother of them all, are not capable of cultivating to great advantage. Oxen are not much uſed for tillage in thoſe parts, as that is almoſt wholly performed by the laborious and ſturdy arms of the men, who are generally well paid for their labour, in proportion to the ſcarcity of hands. Theſe workmen indeed do a great deal more than ours. They are obliged firſt of all to clear the ſpot appointed for culture from the moveable ſtones, and that is a continual employment, as the cultivation is dilated every day round about *Cherſo*; and theſe ſtones they diſpoſe in little walls wherewith they ſurround the field by way of fence and boundary. Generally

theſe

theſe artificial fields are of a circular, or elliptical figure, and are called *Coronale* by the iſlanders; which ſeems to be the remains of a cuſtom among the firſt cultivators, taken from the court-yard, as being fertile in its influences in the primitive ſocieties. Sometimes there are points, or large pieces of marble too deeply rooted to be removed without much difficulty, being parts of the ſtrata which compoſe the ſolidity of the hill; and yet thoſe they endeavour to overcome by all kinds of contrivances and inſtruments. It is eaſy to imagine how much time and labour ſuch preparations of land require. The narrow extent of ground that runs along the ſea ſide in the neighbourhood of the city, needs, without all doubt, much greater labour to be reduced into perfect culture, than would be requiſite for four times as much land, and four times better in the Paduan hills, which nevertheleſs generally yields not a fourth part of the income.

The vines are generally ill ſupplied with water here, as is the caſe in all the mountainous parts of the coaſt, and the borea blows with violence from the mountains of Morlacchia, which hurts, and ſometimes deſtroys them. To ſupply the want of the firſt, as much as poſſible, and to prevent the bad effects of the laſt, in the places moſt expoſed, the iſlanders uſe to lay a heap of earth about every vine, which is kept very low, and almoſt totally diveſted of ſprigs every year, and theſe heaps keep the roots freſh in the dry ſeaſon, and in the winter, and during the windy ſeaſon of ſpring ſerve to cover the vines entirely. They commonly plant their vines as thick as we do Indian corn, and they uſe no pales or other ſupport for them; indeed they grow ſo very low they do not require any. The olives, in former times, were left entirely to themſelves, and neither cleared of their ſuperfluous nor decayed branches. The cultivators were

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not eaſily perſuaded to change this careleſs method; and in this reſpect all peaſants are alike, and obſtinately adhere to the cuſtoms of their forefathers. The example of a few, however, has now univerſally convinced thoſe iſlanders, and taught them that the olive-tree properly pruned, laſts longer, and produces more and better fruit than when left to itſelf. The art of pruning the olives is perfectly underſtood there, while, to our great ſhame, it is ſtill quite unknown among us. The ground occupied by the vines is generally ſet apart wholly for them; though ſometimes there are olives planted between the rows of vines. It is very rare to ſee, in the ſame field, vines, olives, and corn growing together as is frequently the caſe in our hills, through the ignorance of the cultivators. In the *Coronale* deſtined for olives, no corn is ſown, and, on the other hand, the manner in which they manage the vines naturally keeps them from hurting the corn, or from being hurt by it. It is doubtleſs a very unreaſonable and prejudicial cuſtom eſtabliſhed almoſt without a poſſibility of being eradicated in our part of Italy, to keep the vines faſtened to large trees full of branches, and in the ſame field to have corn or other grain growing, for the corn and vines are both greatly injured by the roots, branches, ſhade and other influences of the trees.

As the vines are kept very low in *Cherſo*, ſo the olives are not ſuffered to grow high, and in ſome places theſe two ſpecies ſeem to be planted too near each other.

The woods ſituated on the lands of particular proprietors are ill kept, and on the common lands no ſuch thing now exiſts, they being quite deſtroyed by the barbarous avarice of the natives. In almoſt all the populous provinces of Europe we find the ſame

inconvenience

inconvenience took its riſe, from the ſame defect in the partition of lands. And hence ſome uſeful regulations have been made in England concerning commons. In Switzerland alſo it has been demonſtratively proved, that the inſtitution of commons is pernicious, as it tends to exhauſt and ruin the ground, to diminiſh the rents, and to leſſen induſtry. Notwithſtanding, however, the great abuſes in this particular, almoſt allover the iſland of *Cherſo*, there are ſtill ſome tracts, where the woods, being left to themſelves, are furniſhed with large trees, as near the lake of *Jeſero*, and in the neighbourhood of the hamlets of *Belei* and *Caciebi*. There, on the left ſide of the road which leads to *Oſero*, you ſee a pleaſant little valley almoſt ſurrounded by a wood of old elms, that form a dark and cool ſhade. This is one of the moſt delicious ſpots that can be ſeen.

Since it has been proved, by ſeveral partial facts, that the ſoil of this iſland is extremely ſuitable to the production of large trees, when ſuffered to grow, and that the moſt naked and ſtoney parts would well reward the induſtry of thoſe who planted them, it appears to be an object worthy of the attention of government, to preſcribe proper and efficacious means for renewing and preſerving both private and common woods. This part of agriculture is more neceſſary to be well underſtood, and kept in good order than any other; becauſe one error in it may be the cauſe of fatal conſequences for many years, nay ages, and ſometimes for ever without remedy. The ſcarcity of wood for building, the ſterility, and ruins of the mountains; the alterations in the ſyſtem of the meteors; the too frequent and dreadful inundations, with all their fatal effects; and many other miſchiefs, are owing to the ill management, rooting out, and improper way of cutting of the wood.

Concerning the Products of the Island.

The oil of *Cherſo*, which is reckoned the beſt in quality of any made in the Venetian ſtate, is the moſt valuable product of the iſland. According to the calculations of the iſlanders themſelves, they make from three thouſand to three thouſand five hundred barrels a year. The price of oil is generaly four ſequins a barrel; in former times it was much cheaper. Though the Cherſines do not exactly follow the Tuſcan method of preparing the olives, they come at leaſt very near it. Their oil would be as thick and diſagreeable to the taſte as that uſually made on our continent, if, according to the ſame ſlovenly method, they let the olives ferment and rot without ſtirring them. They are careful to avoid this defect, as well as the ſtupid and abſurd method of gathering them practiſed in many other places. In the kingdom of Naples, and in ſeveral other parts of Italy, they uſe to beat the branches with long poles, in order to make the fruit fall. This fooliſh method, beſides hurting the plants, and ſpoiling many branches that would bear the year following, makes the ripe and unripe fruit fall indiſcriminately, and bruiſes a great deal of both kinds, whereby they become rancid in the heaps, and give an ill flavoured oil.

The greateſt part of this oil is exported out of the iſland; but almoſt all the value is required for the purchaſe of corn, of which the inhabitants do not raiſe enough to maintain them four months of the year. They uſed to be ſupplied with this article by the Turkiſh merchants, at a reaſonable price in times of peace; but ſince the war with Ruſſia they have been obliged to make their proviſion elſewhere with much greater charge.

The

The wine, of which they make only a few hundred barrels for exportation, though the product might eaſily be much increaſed, is not of a perfect quality in proporiton to the oil. This is probably owing to the little knowledge and care they have in gathering and preſſing the grapes, and in fermenting the wine. I have taſted very good wine in private houſes; and no doubt great improvements might be made, if the people were more attentive and better inſtructed in this article. Honey, and wax might be expected to form rich products, and eaſily procured in an iſland where the hills are for the moſt part covered with ſweet herbs; yet they are very inconſiderable, and more neglected than they were in former times. Thoſe few, who keep hives, follow the cruel and inconſiderate method of killing the bees every year, cruſhing them together with their labours; a brutal cuſtom, by which not only the bees are loſt, but the fine quality of the honey is alſo ſpoilt; which, if properly managed, would be nothing inferior to that of the neighbouring city of *Fiume*, and would make an uſeful branch of trade.

The figs are excellent, but no great quantity is exported; perhaps the yearly value that comes in for this article does not amount to four hundred ſequins.

The finer fruits for the table, ſuch as peaches, pears, apricots, and the like, are rarely cultivated in the iſland; conſequently they are ſcarce, and but indifferently good. The Cherſines do great injuſtice to their own induſtry, as well as to the happineſs of their climate, by neglecting them. It ſhould ſeem, that the mild temperature of the air, under which they live, ought to encourage them to have their gardens well provided with the moſt delicate fruits. Beſides the ſoftneſs of the climate,

there

there is another circumſtance, which might induce them to try this kind of cultivation, and that is, the facility of tranſporting their fruit to Venice. The paſſage requires no long time, and frequently may be made in fewer hours than muſt be employed in tranſporting the Paduan or Vicantine fruit to the capital. Beſides, the culture of fruit trees requires no very great attention; which is an advantage that ought alſo to be calculated in a country, where the aſſiduous labours of the peaſants are conſtantly needful for the corn, vines, and olives, the principal, and ſure products.

The Maiz, or Indian corn, is not much cultivated, nor would it turn to account in this iſland, as it requires rich and moiſt ſoil, reſembling its native land of America. The people of *Cherſo* are judicious enough not to endeavour to force this grain to grow on the parched ſides of their hills; and it would be well if our mountaineers followed their example.

Pulſe, and garden herbs, thrive very well, but the inhabitants think little about garden ſtuff; their whole attention being taken up about the more important improvements of their vine and olive yards.

I believe the culture of potatoes might prove very uſeful to this country, as well as to ſeveral others in the neighbourhood; though perhaps they have been recommended with too much ſolemnity, for our rich and fertile lands. With us they may be of advantage in preparing the land, but in thoſe mountainous countries they might ſerve, as in Scotland, for food to the inhabitants. They would be very convenient for hilly countries which produce little corn: and the common people of *Cherſo* would

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would gladly make uſe of them, as they now eat, I know not whether through depravation of taſte, or by cuſtom, which perhaps took its riſe from ſome former famine, ſmall loaves made of roots of the *Arus*, macerated with a little water, and reduced to a paſte exactly in the ſame manner as is uſed in ſome parts of Sweden.* Theſe loves have a kind of ſweetiſh taſte, but too herbacious. They cannot naturally be very wholeſome, and the careleſs manner in which they are baked muſt contribute much to preſerve the cauſtick quality of the *Arus*.

As the culture of potatoes, and other farinaceous roots in this iſland would prove a very opportune relief to the poor, in conſequence of the ſcarcity of corn; ſo the introduction of cheſtnuts in the rocky and naked parts, would be a moſt advantageous improvement, and in the courſe of a few years would ſhow its good effects. Beſides the great yearly benefit of a fruit reducible to bread, and which requires very little care, the inhabitants might, in the courſe of time, recover ſome good land on the ſides of the hills by the defence the cheſtnut-trees would give it from the wind, rain, and ſcorching heat of the ſun, and of courſe the aridity of the country would be leſſened. In the hills of Bologna, in many parts of Tuſcany, the Modaneſe, and in other provinces out of Italy, the cheſtnuts are actually the manna of the mountaineers, who feed on them almoſt all the year round, and are well ſatisfied, healthy, and robuſt to an extraordinary degree. Nor can it reaſonably be alledged that the cheſtnut tree would not grow on the iſland of *Cherſo*, as might be ſaid of ſome other plants, and exotick methods of cultivation; for that tree is very eaſily reared, and much in uſe among the Auſtrian ſubjects on the neighbouring continent. This ſuppoſition, that

* V. Linnæi iter Oelandicum, & Gothlandicum.

that trees and ſeeds are excluſively adapted to thoſe countries where they more frequently grow, is a mere prejudice. We ſee every day that many Aſiatic, African, and American plants grow, thrive and bear fruit in the gardens of Europe as if in their native ſoil. It is indeed our fault, that, in the preſent age, when botany is ſo well underſtood and cultivated, that the curious, inſtead of the uſeful plants, ſhould be brought from thoſe remote climates. The ancients were more judicious in this reſpect than us; for they were at pains to introduce into Italy many fruit trees of foreign growth, which now commonly paſs for ours originally. *Lucullus* was the firſt who brought the cherry-tree to Rome, from *Ceraſunte*, a city of *Pontus*; and not long before the elder Pliny's time, peaches had been brought to Perſia; pears are of Egyptian, or Syrian origin; and cheſtnuts, nuts and ſorbs came from Aſia. We ſee daily whole fields covered with American maiz; and many other exotic grains begin to be cultivated in the gardens of the curious beyond the mountains, which will afterwards paſs into the corn fields, and become common. Mr. Graffenried, a Swiſs gentleman, has naturalized, in his lands of *Worb*, a great number of uſeful American plants, which now require no more particular attention, but grow juſt as if they were in their native country. If the inhabitants of *Cherſo* ſhould reſolve to make plantations of cheſnut trees, it would be of great ſervice to graft them on *Carpini*, as they would come ſooner to maturity, and with leſs trouble.

To ſtudy to render uſeful any tract of land, which now is altogether unfruitful, cannot be reckoned quite labour in vain; and it certainly would be a wiſe meaſure to give encouragements and premiums to thoſe who ſucceeded in ſuch trials. The government

vernment might do this without any charge to the revenue; the part of the tithes, * which ought to be diſtributed among the poor, would be ſufficient to ſupply all the needful premiums. Though the firſt trials might poſſibly produce no great effects, yet every little improvement would be a real advantage in a country, where eighteen hundred acres, at only twelve miles diſtance from the city, do not actually yield thirty pounds ſterling to the proprietor, who is Signor Jacopo Colombis, a hoſpitable gentleman, and a promoter of good cultivation. Perhaps alſo, by theſe means, the population would encreaſe conſiderably, and if ſome other improvements concurred to give a more ſpeedy profit, the happineſs and riches of the iſland might be formed in a ſhort term of years. † But let us leave projects, which, however reaſonable and eaſy, are apt to meet with nothing but ridicule, and return to the actual products of *Cherſo*.

Firewood is alſo a conſiderable article of active trade, eſpecially in the northern part of the iſland which we had not time to viſit. This product is valuable and important on account of the great conſumption in the metropolis; but there is not now that plenty of wood there was in former times, a great part of the hills being quite bare. It will ſtill go on diminiſhing, if the

* The tithes of the iſland of *Cherſo* and *Oſero* are diſtributed in four parts. One part is aſſigned to the poor, and is adminiſtrated by managers appointed by the biſhop; the ſecond is allotted to the church for reparations, ornaments, &c. The third belongs to the Canons of *Cherſo* and *Oſero*, *Lubenice*, and *Caiſole*; and the fourth is aſſigned to the biſhop over all the dioceſe. In the two Loſſins the portion of the poor was long ago given to the pariſh prieſt and curates, who have no certain funds for their maintenance.

† The tranſportation of idle and vicious people, of which there is always plenty in the great cities, has contributed not a little towards the population of America.

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wiſdom of government does not think of ſome new regulations to prevent the abuſe of former laws. The trees commonly uſed for fire wood, are the common and ever green oak, the elm and aſh, beſides wild vines, the *arbutus*, *philerea*, juniper, &c.

The white mulberry tree has hitherto been almoſt quite neglected, though there is reaſon to hope, that there will ſoon be ſome conſiderable plantations made. Several proprietors of lands begin now to open their eyes, and think ſeriouſly of turning a part of them to advantage, in ſuch a manner, as requires the leaſt number of cultivators, in order to render the produce of their poſſeſſions conſiſtent with the ſcarcity of labourers, which now obliges them to leave a great deal uncultivated and barren. The writers on agriculture of our days, ſeldom take notice of this material circumſtance, being generally more eager in recommending ſpecious projects, whoſe merit often lies more in appearance than reality, and therefore ſeldom prove of general uſe.

The various kinds of ſhrubs and plants for dying, which grow in great plenty on the iſland, might eaſily be rendered more uſeful than they are at preſent. They might in ſome meaſure ſupply the place of wine, which is neither very plentiful nor good, and often not to be had by the poor labouring men, as they do in the neighbouring province of Carniola. The liquor they make there is wholeſome and agreeable to the taſte, though nothing elſe but an infuſion of the berries of the red juniper, which alſo grows in great plenty in the iſland of *Cherſo*. The preparation is extremely ſimple. They fill a wooden veſſel ſet apart for that purpoſe half full of berries, and pour a ſufficient quantity of water on them; then cloſing the veſſel, they let the in-

infuſion

fuſion ferment two or three weeks, according to the ſeaſon, and then broach it for daily uſe. As they might imitate the Carnians in this piece of economy, ſo they might as eaſily avail themſelves of the great quantity of the fruit of the *arbuti* to make brandy, as the inhabitants of the iſle of *Andros* in the Archipelago do.* But the people of the town, and in the neighbourhood of it, are too few for the neceſſary work, and thoſe within the country are too ſtupid, and indolent to attempt any thing new, unleſs forced to it by extreme neceſſity. Therefore the red juniper berries are left to fall uſeleſsly, nor do they gather the *arbuti*, nor the grapes of the *lambrus*, which grow in great plenty, and are ſuffered to rot on the trees, though, with a very little induſtry, they would afford an excellent liquor, as they do in ſeveral parts of the continent. The *lambrus* of *Cherſo* is frequently as thick at the root, as the old vines with us.

Among the plants, that might be employed for dying, the only one commonly made uſe of is the *lentiſcus*, which grows in great plenty, particularly about *Oſero*. They uſe the leaves of this tree careleſsly bruiſed, to give a kind of coffee colour to their nets. For that purpoſe, they lay the nets in infuſion together with the pounded leaves, and leave them to ferment in the water till the colour is given. The *rubia* is entirely neglected; they even do not know it, though common enough in the iſland. It would be well if the inhabitants could be perſuaded to employ their women and children to gather the ſeeds of this plant, and, by that means, to cultivate and propagate it, as the experiments related by M. d'Ambournay of Roan prove, that it may be more advantageouſly uſed freſh, than when dried.

* V. Tournefort, *Voyages du Levant.*

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Of Shrubs and Herbs useful, or hurtful.

Our ſtay in the iſland was not long enough; and our mountain and littoral journies were rather too quick to give time for our learned companion, the profeſſor of Botany, to make a good collection of plants. At any rate, I ſhould think this little work wanted a material advantage, if I neglected to inſert his annotations. They will certainly be very acceptable to the lovers of that part of natural hiſtory. * Some of them may be an object of

" * Cynogloſſum Luſitanicum. *Planta pedalis. Radix lignoſa, biennis. Folia* " *ovato-lanceolata, integerrima, villoſa, ad baſim ciliata. Caules læviter ſtriati,* " *ſcabri. Flores parci, foliis oppoſiti, cæruleo albicantes. Semina parva, muricata.*

" Caucalis grandiflora. *Involucri univerſalis foliola* duo *reliquis majora. Lin-* " *næus* unum *ponit.*

" Ornithopus Scorpioides. Scorpiurus muricata. Coronilla Cretica. *Flores* " *coloris varii, nonnulli varii, reliqui albi. Legumina non ſemper quina. Petioli a* " *baſi ad dimidium uſque langinoſi* eſſentialem *ſpeciei characterem conſtituunt.*

" Aparine, ſemine Coriandri ſaccharati. ☞ *Similis ſpeciei Siculæ, de qua* " *Linnæus inter Galia nullam mentionem facit.*

" Echium vulgare. Althæa Cannabina. Geranium Ciconicum. Lamium " purpureum. Agrimonia Eupatoria.

" Gladiolus communis. Hyoſeris Hedypnois. Braſſica Eruca. Eryſimum " Alliaria. Orobanche, flore cœruleo. Solidago virga aurea. Punica Grana- " tum, *ſponte.* Tamus communis. Dipſacus Fullonum. Bupthalmiun Spinoſum. " Lithoſpermum officinal. Delphinum Conſolida. Convolvulus Althæoides. " Verbaſcum Phœnicium. *Color florum ſæpe obſcure purpureus.* Salvia officinalis. " Laurus nobilis. Euphorbia Amigdaloides. Myrſinites. Spinoſa. Sorbus " domeſtica, *conſpicuæ quandoque, inſigniſque proceritatis occurrit.*

" Vitex Agnus caſtus. *ibi arboream magnitudinem acquirit. Caulis, ſcilicet Trun-* " *cus diametrum habet quandoque pedalem.*

" Phyllirea latifolia, arbor facta. *Truncus ſæpe diametrum habet pedali majorem.*

" Juniperus communis, *eadem magnitudine inſignis quam frequentiſſime.*

" Vitis Labruſca. *Seſquipedalem diametrum non raro acquirit, pone lacum vulgo* " di Jeſero.

Onoſma

of mere curioſity; and the people of *Cherſo* may draw advantage by the uſe, or culture of ſome others. I ſhall ſay ſomething

" Onoſma Echioides. *Radix lignoſa, perennis, digiti craſſitie, intus alba, extra* " *obſcure purpurea. Caulis pedalis a baſi ramoſiſſimus, ramis purpuraſcentibus, hiſ-* " *pidis. Folia radicalia, lineari-lanceolata, conferta, caulina alterna lanceolata, ſub-* " *ſinuata, ſeſſilia, hiſpida. Bracteæ hiſpidæ, & Calices. Flores albi, conferti, nu-* " *tantes. Antheræ inter ſe convexæ, uti in* Cerinthe, ☞ *cum qua genere naturali* " *conjungenda eſt. habitat ſaxa ſterilia.*

" Thlaſpi ſaxatile. Onoſma orientalis. *Prope Apſorum.*

" Cyperus ſempiternus. Prenanthes purpurea. Ruta graveolens. Lotus " Dorichnium. Linum alpinum. *Flores maximi reſpectu plantæ; Caules ſpitha-* " *mei, procumbentes.*

" Anethum fæniculum. Hedyſarum ſaxatile. Anthoxanthum odoratum. " Aſphodelus marinus, Alyſſum montanum. Beta maritima. Arethuſa Nea- " politana ☞ *Hæc circa Neapolim tantum, nec alibi in Italia.*

" Mirtus communis; *frequentiſſibus in collibus.*

" Juniperus, *fructu rubro, magnitudine conſpicuo.*

" Ciſtus Salvi-folius. *Flores modo albi, modo purpurei. Petali decidui. Petioli* " *florum alati.*

" Arbutus Unedo, *cum qua pulcherrimum nemus conſtituunt.*

" Laurus nobilis, Phyllirea latifolia, Viburnum Tinus, Piſtacia Lentiſcus, " Erica arborea, flore albo, Ilex minor, Coronilla Emerus, ec. Staphylæa Euro- " pæa. Praſium majus. Glycyrrhiza glabra. Lotus hirſutus. *Caules ſubpro-* " *cumbentes, hirſuti. Flores in capitulum. Calices hirſuti, purpuraſcentes. Corollæ* " *vexillum ſupra rubrum.*

" Solanum dulcamara. Piſtacia Narbonenſis. *Petioli purpurei, foliola ovata,* " *integerrima, puncto acuto ad apicem glabro, ſuperne viridi, ſplendeſcentia.*

" Lathyrus Niſſolia. *Folia linearia, acuta, pedunculis longiora. Stipulæ breviſſimæ,* " *ſubulatæ. Pedunculi ſolitarii, vel biflori. Corolla purpurea, carina alba. Caulis* " *ſimplex angulatus.*

" Tamarix Gallica. Bupleurum rotundifolium. Chænopodium vulvaria. Ga- " lium. *Foliis ſenis, linearibus, acutis; pedunculis bifloris, caule procumbente. Cau-* " *les duo pollicares, annui, tenuiſſimi, dichotomi. Foliola ſena linearia, lineas duas* " *longa, rigidiuſcula. Flores minimi albi.*

" Lapſana Zacyntha. Ægilops incurvata. Teucrium.

" Rubia peregrina. Cypreſſus pumila.

" Paſſerina

thing concerning ſeveral plants of the laſt claſs, adhering, by that means, to my principal ſcope, which is to be uſeful, as much as lies in my power, to thoſe inhabitants by whom I have been ſo well received and treated.

The common odoriferous *Salvia* reigns almoſt to the excluſion of every other plant in ſeveral tracts of *Cherſo* and *Oſero*. The medicinal virtues of this plant are univerſally known, and the learned as well as unlearned phyſicians, know it to be cephalick, alexiterick and ſtrengthening. The Chineſe, who ſell their tea to the Europeans, wonder how there can be ſuch a demand for that herb, which, in their opinion, is of much leſs worth than the *Salvia*, of which there is ſuch abundance in Europe. The Hollanders buy up, at a low rate, as much *Salvia* as they can find on the coaſts of the Mediterranean, particularly in Provence, and ſell, or give it in exchange to the Chineſe, from whom, they ſay, they receive double, and ſometimes triple the quantity of tea. Why might not we alſo endeavour to traffick for our *ſalvia* with the few Hollanders who bring us their bad ſalted or ſmoked fiſh? The iſland of *Cherſo* and *Oſero*, together with thoſe in that neighbourhood, would furniſh thouſands of buts.

The *lentiſcus* grows ſpontaneouſly, in great plenty in the neighbourhood of the city of *Oſero*. This ſhrub, which never loſes its leaves, might perhaps become of ſome advantage to the iſlanders, and deſerves to be cultivated, at leaſt for a trial. The iſland of *Scio* in the Archipelago, derives the principal article of trade

" Paſſerina hirſuta. Aſperago procumbens.
" Aliſſum Gemonenſe.

trade from it. The maſtich, which the Sciots gather from it, is ſold very dear at Conſtantinople, and in many parts of Aſia. If it could not be gathered three times a year, on the iſland of *Cherſo*, as in the Archipelago, perhaps it might be done once or twice; the ground is of little value there, and the culture of the plant requires very little time, and only a little ſimple attention. The maſtich iſſues from the inciſions made in the *lentiſcus* in the month of July, and falls on the ground, or is gathered in drops before it falls. The Sciots are careful to keep the ground about the tree very clean, that the purity of the gum may not be ſoiled when it falls. In the iſlands of the Archipelago, they alſo make oil of the ſeeds of this ſhrub, and the Turks prefer it to the oil of olives, both as a medicine and for burning. The phyſicians attribute to it an aſtringent quality, and uſe it in procidences of the *rectum* and matrix. A decoction of the wood of the *lentiſcus* is held in Germany for a wonderful ſpecifick againſt the gout; and as a tonick and dulcifier.

Not only the *lentiſcus*, but various ſpecies of *Ciſtus*, generally known by the name of *Salvia*, are found in plenty in the woods of *Cherſo*. Among theſe probably the ladaniferous ſpecies is alſo to be found; but the Cherſines have not yet exerciſed their induſtry to extract the ladanum. In the Greek iſlands, the prieſts uſe to collect it about the beginning of Auguſt; and Tournefort, in his voyages, has given us the deſcription of the method they uſe. It is exceedingly ſimple. They faſten thongs of leather to the ends of long poles; and with theſe they gently beat the tops of the *ciſti*; the reſinous matter ſticks to the leather, and they pull it off when dry. In Spain, the peaſants extract the ladanum from the *ciſti* by decoction, but it is not eſteemed. In the Levant much more uſe is made of this drug than

than among us. The *Agnus caſtus*, *Ornythopus*, *Cynogloſſum*, *Lupulus*, *Smilax Spinoza*, and many other medicinal plants grow there of their own accord; but nature has alſo planted the *Solanum*, *Hyoſcyamus*, and *Euphorbiæ* particularly, in ſuch abundance, that, in ſome places, hardly any other herbs are to be ſeen. Of this laſt ſpecies of hurtful plants, the peaſants of the iſland have courage to make uſe of the decoction as a febrifuge; though, probably, ſooner or later they feel the bad effects of it.

Animals.

Sheep are the moſt numerous ſpecies of quadrupeds on the iſland; oxen, beaſts of burden, and hogs, being in no great number. Theſe may amount to ſeventy thouſand,* and the proprietors pay only half a ſol of capitation for them. Yet the charges are ſo great, together with the thefts of the ſhepherds, and the mortality, that, on an averge the proprietors do not clear a ſixpence a head yearly, including the product of the wool and lambs. The wool of *Cherſo* is not of good quality, and therefore the ordinary price does not exceed three-pence to four-pence a pound. The ſheep are not of the beſt breed, and perhaps that circumſtance contributes towards the badneſs of the wool, beſides the bad management the flocks are under. They live conſtantly in the open air, under a climate rather irregular, and without any kind of ſhelter to retire to, either in rain, ſnow, or other ſtormy weather. The rocky and wild places, where

* About the middle of the laſt century, P. d'Avity, an accurate geographer for his time, wrote that there were a hundred and fifty thouſand ſheep on the iſland of *Cherſo* and *Oſero*. No doubt the increaſing cultivation of the land has hurt the propagation of flocks, by turning a great number of the inhabitants from a paſtoral life.

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where they feed, are full of thorny plants, which tear away a part of their wool. The diſperſed and careleſs way in which they are kept, cauſes many lambs to periſh, and even ſheep alſo, which might be ſaved by more careful management. The annual loſs amounts generally to four thouſand by mortality, without any epidemical diſtemper. Falls from ſteep rocks, the ſnow under which they are ſometimes buried many days, and the dogs that purſue them, are the principal cauſes of ſo conſiderable a loſs. The iſlanders, however, are not altogether to blame in expoſing themſelves voluntarily to this loſs, being obliged to do ſo, in order to avoid ſomething worſe. The Morlack robbers, and particularly thoſe of the Iſtrian colonies, * *Caſtelnovo*, *Carnizza*, *Medolino*, and *Altura*, too often land on the iſland, and carry off all the animals of every ſpecies that they can collect together, and that frequently before the eyes of the keepers themſelves, who are not in a condition to oppoſe armed plunderers. If the flocks were united in large numbers together, or houſed, theſe robberies, which cannot be prevented on an iſland open on all ſides, would be much more detrimental. The ſcarcity of population does not admit of a better ſyſtem; and hence every proprietor of flocks, or ſeveral together, entruſt them to a ſhepherd, each marking his own ſheep by different cuts in their ears.

Poultry and all domeſtick fowls would thrive exceeding well, but corn being ſcarce, they coſt too dear, and therefore few are

 kept.

* *Caſtelnovo* is the ancient *Neſactium* at the mouths of the *Arſia*. Livy ſpeaks of the ſiege and deſtruction of that ancient city, in the XLI book. It was one of the principal cities of Iſtria; and if we believe Appian, *Metulium* was the capital of Iſtria, which ſome think correſponds to *Medolino*, at this day a very wretched village, though deliciouſly ſituated, and inhabited by a poor, idle, vicious people. There remains no veſtige of ancient grandeur, if the ancient Iſtrians had any thing that could be called grand.

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kept. A capon coſts uſually eight or ten Venetian livres. The ſcarcity of domeſtick fowls is, however, compenſated by a great abundance of wild fowl and game, ſuch as partridges, turtle doves, hares, rabbits, &c. The inhabitants uſe no nets, nor ſnares in order to catch their game with little trouble. Polecats are very common, and their ſkins are carefully collected and ſent to Venice, where they have the art of dreſſing them ſo as to reſemble the fur of the marten. Theſe good iſlanders perſuade themſelves, that no ſpecies of poiſonous animals can live on their iſland, and the common people do not fail to attribute this circumſtance to a miracle of St. Gaudentius; a pious credulity, to which father Farlati, in his *Illirico Sacro*, gives his aſſent.* We however, ſaw vipers there, of which the bite could not be very ſalutary. Many creditable perſons alſo aſſured us, that ſerpents of an enormous ſize are ſometimes met with, ſome of which are a foot in circumference, and three or four yards long; others more rarely ſeen, are two feet round, and leſs than two yards long; which deſcription agrees very well with a ſpecies of ſerpents very frequently ſeen on the coaſt of Guinea. We however ſaw none of thoſe monſtrous ſerpents, either alive or dead.

* Several other iſlands boaſt the ſame privilege, among which are Candia, Malta, and Ireland. Of this laſt iſland Adrianus Junius (Jonque) a native of Horn in Holland, and a writer, traveller, and phyſician of the ſixteenth century, ſung thus:

Illa ego ſum Grails olim glacialis Ierne
Dicta, & Jaſoniæ puppis bene cognita nautis,
Cui Deus, et melior rerum naſcentium origo
Jus commune dedit cum Creta altrice tonantis
Noxia ne noſtris diffundant ſibila in oris
Terrificæ creti tabo Phorcynidos angues;
Et forte illati compreſſis faucibus atris
Viroſo pariter vitam cum ſanguine ponunt.

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dead. Thoſe who aſſured us of their exiſtence, added that they were amphibious, and uſually inhabited unfrequented bays.

Our time did not permit us to obſerve the variety of birds and inſects.

Of the Fiſhing.

About three hundred perſons of the city of *Cherſo*, and a much greater number in the other places of the iſland are employed in fiſhing. The ſea thereabouts is plentifully ſtored with tunny fiſh, *dentali*, mackrel, and an infinite quantity of ſardines, which are ſalted, and diſtributed in barrels all over the ſtate, forming a very conſiderable branch of inland trade. The product of this fiſhing, and of that of the tunny, is not eaſily calculated; as it depends not only on the more or leſs numerous paſſage of the fiſhes, but alſo on the number of fiſhermen who concur for the ſeaſon. There are ſix principal poſts round the iſland of *Cherſo*, for catching the tunny fiſh, called by the iſlanders *Tonnere*. The Sardines alſo have their conſtant ſtations in their paſſage, one of which is the little iſland of *Sanſego*, which we ſhall have occaſion to mention again. Theſe voyages of the fiſhes deſerve to be obſerved and examined with particular attention, having ſomething ſtill more ſurpriſing in them than the paſſages of the quails, ſwallows, &c. The inhabitants of the ſea have ſome of their cuſtoms analogous to thoſe of the terreſtrial animals, and the emigrations and pilgrimages which ſucceed from year to year under the waters, muſt have ſomething very curious in them. The regularity, and the mutability of theſe voyages appear to me ſo much the more worthy of obſervation, as hitherto they have been but little obſerved in our ſeas, though the ſmall diſtance of one ſhore from the other, and the frequency

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of iſlands invite to examine the works of nature, which in the ſubaqueous kingdom, has ſcattered wonders far more amazing relatively to us, than in the terreſtrial. Nor ought this examination to be eſteemed an object of mere curioſity, as many conſiderable and eſſential advantages to commerce might reſult from it; for example, to change a branch of paſſive into active trade, and a hurtful and expenſive article into a lucrative and uſeful one.

The immenſe quantity of *mollia*, and their almoſt infinite variety; the multiplicity of aquatick inſects: the very conſiderable number of the ſtoney labours of various *polypi:* the many ſpecies of fiſhes, and *teſtacei*, which require to be examined with leiſure and diligence, would form a long, aſſiduous, and no leſs uſeful than delightful occupation to a perſon travelling from rock to rock, and led by genius and eagerneſs to acquire new intelligence in natural hiſtory.* The muſeums of the curious in this country,

* Few authors have hitherto wrote concerning the natural hiſtory of the Adriatick; and the worſt is, that not even all thoſe have ſucceeded well. *Zanichelli*, a Venetian apothecary, publiſhed a large volume in folio, *delle piante del Lido Veneto*, and filled it with figures which are good for nothing Count *Ginanni* of Ravenna, left two volumes concerning the botanical and animal natural hiſtory of our ſea, and his book, though it had but little merit, is one of the beſt we have, The figures, of which it has plenty, are very ill executed. Doctor *Vianelli*, of *Chiozza*, and Signor *Griſelini*, have wrote upon the phoſporic points, which are ſeen ſwiming in the ſalt water, eſpecially in ſummer, and they both thought, with very plauſible reaſons, that every ſparkling point was a microſcopic *Scolopendra*. M. Martin Brunnich, publick profeſſor of economy and natural hiſtory at Copenhagen, illuſtrious for his *Ornitologia*, and his *Entomologia Borealis* publiſhed when he was very young, wrote a treatiſe upon the fiſhes, obſerved by him in a voyage made along the coaſts of the Marca, Dalmatia, and Iſtria, claſſing them according to the method of *Linnæus*. He alſo made repeated and exact obſervations,

country, who have purchaſed exotick ſhells, *cruſtaceæ* and *litho-ſiti* at high prices, are totally unprovided with thoſe of our own ſea; a circumſtance which not only does no honour to them, but is alſo an injuſtice to the country, which produces as great abundance of natural curioſities as any other, and ought certainly to be preferred by thoſe who make ſuch collections. The ſeries alone of petreſcent plants, the wonderful labours of various ſpecies of inſects, which abound in our ſea, would afford matter for intereſting obſervations, and noble collections, qualified to do us honour, when ſeen by learned travellers, who now look upon us with contempt.

Beſides the ſea fiſhing, which is an article of trade, the inhabitants of *Cherſo* have alſo plenty of freſh water fiſh, which might become an article both of pleaſure and profit. They have no river, however, as has been wrote by ſome who truſted to unexact informations, or to the exterior appearance of the valley formed by the rain water at *Caiſole*, near the northern point of the iſland: but they have a lake in which there are pikes, of above thirty pounds weight, and tenches, eels, and other freſh water fiſh of exquiſite taſte.

Of the Lake of JESERO.

Among the natural curioſities of *Cherſo*, the firſt place is due to the lake called of *Jeſero*, a corruption of *Ozero*, or *Ezero*, analogous

obſervations, in my company, upon the *phoſphori* of the Lagunes, and canals of Venice; but has not treated of them in the works laſt mentioned, probably reſerving them for another occaſion, as I do likewiſe. The celebrated Doctor *Bianchi* of Rimini, has given two editions of his valuable book *de Conchis minus notis*, diſcloſing in part the riches of our ſands, and making various and intereſting reſearches concerning the flux and reflux of the Adriatick. One of the illuſtrators of the natural hiſtory of our ſea, was the celebrated Vitaliano *Donati* of Padua, of whom I ſhall ſay ſomething in a ſubſequent note.

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analogous to the word *Jezoro*, ſtill uſed by the Poles, to expreſs a lake, or ſtanding pool of water. It requires no ſuperior knowledge to judge of the beauty of this lake, as it preſents a moſt agreeable ſpectacle to the unlearned as well as the learned. It is ſurrounded by a chain of little hills for the moſt part of eaſy aſcent, though in ſome places ſteep; its circumference ſeems to be four or five miles, though ſome call it ſeven. All that tract of country is wild and uninhabited. Its bed, as far as can be ſeen, though the water near the ſides, ſeems to be hollowed out of the hard ſtone. Being ſituated at the foot of wild hills, not well covered with wood, and having too ſhallow and too weak a ſoil to reſiſt the force of the rains, a quantity of earth and other matter has been carried down towards the middle of the lake, ſufficient to nouriſh various plants. Its depth is from twelve to fourteen feet; in ſome places it is more, and the inhabitants ſay, perhaps exaggerating, that in ſome places its depth cannot be meaſured. The figure of this beautiful lake is near elliptical, only in ſome parts it is altered by ſmall ſinuoſities, which follow the winding of the roots of the hills.

In former times, there ſtood a caſtle on the brink of the lake, but, now, the principal walls and ſome part of the underbuilding only remain. Below theſe ruins there is a kind of pier to which a boat is made faſt, that has ſerved for common uſe, heaven knows how many years. It is leaky, rotten, and takes in water on all ſides; ſo there is need of conſtant attention to throw out the water to prevent ſinking. Perhaps there is not a bark in the whole world which more reſembles that of Charon, which has been paſſing and repaſſing the Stygian lake from the firſt mythological times to thoſe of the modern *Paſtor-Arcadi*. I went on board this antique veſſel, together with a gentleman of

of the country, who was ſo kind to accompany us in our excurſions, and a man to row, and to throw out the water: and truly on our ſtepping in

——— *gemuit ſub pondere cymba*
Sutilis, & multam accepit rimoſa paludem. Virg. Lib. VI.

This would be a delicious habitation for a philoſopher diveſted of the paſſions that are neceſſary to live in ſociety! what peace, and undiſturbed mediocrity might he enjoy! or how charming a retirement would it be to the melancholly man, who would willingly bury himſelf there, to be out of the way of creating gloominess in others; or of daily increaſing his own. From the tops of the hills the ſea is diſcovered all round, and all the neighbouring iſlands. The barren wildneſs of the ſituation might eaſily be adorned, and rendered fertile by art, if the intention was to reſtore it to its former natural ſtate. On the north ſide, there is a diviſion between the hills, probably made by the rain waters; and that opens the entry into a valley covered with old oaks of an immenſe ſize, and other very beautiful trees, which maintain there a perpetual verdure, and ſhade; the ruſtick variety of their diſpoſition could not have been better concerted by human taſte. On the left hand, and in front of this wood, are ſeen immenſe rocks and precipices, which form a magnificent proſpect.

The lake is not always conſtant in its confines. Sometimes it leaves a part dry for three or four years, and then riſes again. At other times it riſes above its uſual level, and after a certain time, forſakes the uſurped ground. The proprietors of the contiguous lands uſe to ſow them when free of the water, and know how

how to take their meaſures by obſerving the ordinary periods, though they might ſtill make their obſervations with greater exactneſs. The firſt year they ſow maiz, or Indian corn, which yields no great crop, on account of the weeds that ſpring up with the grain, and which it is difficult, or perhaps impoſſible to extirpate: but the two or three ſubſequent years, they have very plentiful crops by ſowing wheat: the fifth year they forbear to ſow, expecting the riſing of the waters, which ſeldom fails to happen.

The periodical flux and reflux of the lake of *Jeſero*, puts us in mind of the extravagance of a river in America, in the province of *Chiapa*, which Father Torrubia aſſures us, in his natural hiſtory of Spain, runs three years without interruption, and is dry for other three years ſucceſſively. The lake of *Iſterbourg* in *Pruſſia*, has alſo a triennial period, and therefore has a greater reſemblance to our lake, than the nearer lake of *Czirkniz* in *Carniola*. Of this laſt, the Baron *Valvaſori* has publiſhed a long, exact, and curious deſcription in his vaſt work *De gloria Carniolæ*, which is a rare book in our libraries. *Cluverius*, many years before, and the famous *Jo. Alb. Fabritius*, ſometime after, mentioned the ſame lake; but the laſt took all his information from *Valvaſori*.* Every year in the month of June, the waters of

* V. *Jo. Alb. Fabritii Theologia Aquæ*. The part relating to the lake of Czirkniz, is alſo inſerted in the extract of the work, in the *Bibliotheque Raiſonnee*, but copied from the *Gloria Carniolæ* of baron *Valvaſor*, printed at Lubiana, in 1689, in 4to. a book little known in Italy. After many others, M. Valmont de Bomare, has alſo wrote on this ſubject, in his copious dictionary of natural hiſtory; but it is ſtrange that he has placed the lake in Hungary, deſcribed it ill, and reaſoned poorly enough on it, perhaps by having depended too much on thoſe who pretended to have been occular witneſſes.

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of this laſt mentioned lake, ſink down through ſubterraneous ways, and carry all the fiſh along with them. In the ſhort period of five and twenty days all the water is gone; they ſow corn on the rich abandoned ſoil, reap it, feed cattle, and hunt with all freedom till the month of November. Then the waters re-aſcend through ſeveral apertures, and in twenty-four hours time fill the ordinary recipient, and people it with fiſhes, ſome of which are two feet long, and of proportionable weight The extent of this lake is conſiderable, and therefore expreſsly marked in the geographical maps. The Baron *Valvaſori* has endeavoured to explain this phenomenon by means of ſubterraneous ſiphons, which ſeem rather to embarraſs the matter. *Meſelius* * in the year 1688, gave a very exact account of the lake of *Iſterbourg*, near *Kauten* in *Pruſſia*. When full of water, it is very deep, and has abundance of fiſh; but it changes its ſtate alternatively, and dries up in ſuch a manner, that during the ſpace of three years the inhabitants hunt, and exerciſe huſbandry where the three years before they uſed to fiſh. In this lake likewiſe the fiſhes return with the waters by unknown ways; nor is there any viſible ſtream, fountain, or ſubterraneous cavern that has a communication with it, or runs into it that has a probable communication with any river. Who knows? perhaps the lake of *Czirknir*, known alſo by *Strabo* under the name of *Palus Lugea*, two or three other lakes of *Iſtria*, and its neighbourhood, the perennial waters that run under the mountains, acroſs deep gulphs and whirlpools, and the lake of *Cherſo*, have or had originally the ſame common ſpring. Ariſtotle believed, and wrote that the ſpecies of fiſh by him called τρίχια, and by us *Sardina*, was catched by the fiſhermen

* V. *Acta. nat. curios.* Dec. II. n. 5. p. 4.

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only on its entering the black ſea, but never in going out; " becauſe, ſays he, it does not ordinarily go out. The reaſon " of this is, that of all the other ſpecies of fiſhes, the Sardine " alone ſwims up the Danube; and when it comes to the dira- " mation of the river, is carried into the Adriatick." * We ſhall a little further on take notice again of this voyage of the τρίχια; let it ſuffice juſt now to have hinted, that ſome, not without reaſon, derive the origin of the refluent lakes of theſe parts, and the large fiſhes that are found in them, from a diramation of the Danube, or of ſome large river communicating with it, ſuch as the *Sava*, perhaps open in former times, and now covered by the ruins of mountains, and deviated. This is a point of natural hiſtory nearly connected with other points of ancient hiſtory, and which deſerves to be accurately diſcuſſed. †

Of the Caverns and Gulphs.

There are ſeveral gulfs in this iſland of *Cherſo*, though not ſo many as in the neighbouring continent, and particularly of *Iſtria*. We viſited two of them, but could not go down into the firſt for want of time, and the neceſſary helps, ſuch as ropes, ladders, lights, &c. It is ſituated a ſhort mile from the habi- tation

* Ariſt. Hiſt. Anim. Lib. VIII. Cap. 13.

† Under the title of *the ſmall iſlands adjacent to Cherſo and Oſero* I ſhall treat more at large on the changes wrought in Iſtria by the ſubſidencies of the marble ſtrata. The lakes, the dreadful caves, the gulfs, and the vaſt depoſites of ſand that are to be ſeen on the hills of that province, and the adjacent little ſandy iſlands, have all, in my opinion, one common origin, from which, however, I would except ſome particular effects, as proceeding from cauſes purely local. This ſubject would require to be treated expreſsly by itſelf.

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tation of the courteous Signor Jacopo Colombis, at *S. Pietro di Mezzavia*.

The ground all around is covered with very ſharp and cutting pieces of rocks, among which ſome few trees grow, and bruſh-wood exceedingly cloſe together. This inconmodious road goes bending a little in declivity, as you come nearer the mouth of the gulf, and there the trees are not ſo rare. The maſſes that ſurround the cavern are very large, and parts of a ſtratum two feet and a half thick, disjoined by the water, and ſubverted for want of an equal baſe, yet ſupported, as it were hanging in the air by the large roots of the trees. The aperture is about fifteen feet wide, and is croſſed by the root of a large *ilex*. The branches of that old tree that incumber the entrance, render it ſtill more dark and frightful. The depth of this cavern cannot be aſcertained. A pauſe is ſeen from the brink, which may be about twenty feet below; but the gulf does not end there, another lateral hole opening near it, through which the ſtones thrown in by the curious roll, and rebound a long time before they ſtop. Of this abyſs, whoſe ſubterraneous obſcurity muſt be vaſt and intereſting, I hope one day to be able to give a more particular account, if circumſtances permit me to return to that iſland; as I look upon exact deſcriptions of the interior parts of our globe, to be equally uſeful to mineralogy, as anatomical diſſections of the human body are to phyſick. In the northern part of *Cherſo*, which we had not time to viſit, there are many precipices, and magnificent grottos, caverns and dens well worthy of obſervation, at leaſt, if they correſpond to the deſcriptions given us of them. The rent of the mountain near *Smergo*, where they uſually paſs from *Cherſo* to the neighbouring iſland of *Vaglia*, muſt be a magnificent ſpectacle to a geologiſt,

if it is true that it is above two hundred feet perpendicular, and probably ſome intereſting obſervations might be made there.

The celebrated Scheuchzer has adorned his alpine travels with many prints, repreſenting ſuch like gigantick works of nature. But the rich, and learned men of his time, contributed towards the charge of engraving, chuſing one or two each, in order to bring to light the amazing architectonick labours which the waters, time, and other more prompt and impetuous agents had concealed among the wild aſperities of the mountains, and in deſert places of difficult acceſs, where no other travellers but the lovers of natural hiſtory chuſe to go. *

The other cavern, or *foiba*, which we viſited, is three miles from the city of *Oſero*, near the *ſtanza di Ghermoſall*. In that ſituation there are, properly ſpeaking, three caves which communicate one with the other. The variety of their ſymmetry, within the ſmall ſpace of about three hundred feet of ground, ſerves manifeſtly to ſhew what curious and conſiderable differences might be found in the gulfs, precipices, and ſubterraneous caverns ſcattered over the iſland, and eſpecially in thoſe that run under ground in the higheſt parts of it, where, probably, no man has hitherto had the courage to penetrate, and where I would penetrate with pleaſure!

Your

* *I. Scheuchzeri Itinera Alpina. Lond.* Sir Iſaac Newton, Woodward, and many of the firſt names in England, contributed to the impreſſion of this work. Scheuchzer had nothing to think of, but only to ſend his MSS. to the Royal Society.

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You go down by an uneven ſteep path into a large hole, the aperture of which forms an irregular parallelogram, and runs between two ſtrata of marble inclined in the ſame direction. The ſurface of that on which you tread in deſcending is unequal, and full of broken pieces. It appears to have been torn ſuddenly from the other ſtratum, which hangs out of its perpendicular about twenty feet, meaſuring from its greateſt height, which is about ſixty. In falling, it ſeems to have ſtruck againſt a very unequal plain, and thereby to have been broken in ſeveral places. The circumference of this hole, which wants none of the wild ornaments of trees, buſhes, and uncouth chaſms, is of ſixty-ſeven feet. The two leſſer ſides are formed of hanging grottos, ſupported with maſterly negligence, or rather by the niceſt art of nature. Below theſe the entry into the two lateral caverns opens on both ſides. The ſmalleſt of theſe, which lies on the left hand of thoſe who deſcend, reaches about fifty-five feet under ground, having no where more than fifteen feet in breadth, nor leſs than ten in height. The arch of the entry is very regular, but within, it is neither magnificent nor ornamented. It has ſomething, however to ſupply this deficiency: In the fartheſt corner of the cave, where, with the moſt ſcrupulous and exact curioſity, we went with lights in our hands, we found a depoſit of ſemi-petrified bones connected together by a kind of iron ſtoney ochre. The bones lie, as it were, concealed on the left hand of the fartheſt hole in the cavern, not above two feet from the ground, and buried above thirty feet under the ſuperficies of the hill, which is all compoſed of marble. Above this hole, not above two feet broad, the vault is very high, inſomuch that it looks like the cylindrical inſide of a tower; in entering, one is obliged to ſtoop very much.

We returned out of this hole, and croſſing over the large cave already deſcribed, we came to the entry of the third cavern, which exceeds the other two in magnificence, largeneſs, and regularity of architecture. The caprice of the ſhepherds has almoſt ſhut up the entry by throwing ſtones into it. The remains, however, half open the ſegment of an arch well formed, and which appears to have pilaſters very regularly cut. Under this arch, ſometimes walking, and ſometimes creeping, or letting ourſelves ſlide backwards, we got into the large cavern. It is ſixty-five to ſeventy feet in diameter, and about as much in height, and a hundred and fourteen in circumference. In the middle of the roof, there is a circular aperture, like that of the Pantheon at Rome, which may be about twenty five feet in diameter.* If the arch of this ſubterraneous *rotunda* were not embarraſſed with ſtones thrown in from above, it would form a ſtill more ſurpriſing ſpectacle. On the right and left hand of the entry, the ſtrata are inclined in a ſtrange manner, one againſt the other, and they appear to have been thrown into that not-natural ſituation by ſome great ruin. The great convergent angle formed by them ſerves laterally for the vault. The ſide of the cave bends a little above the arch of the entry, though not much, on account of its ſmall thickneſs, which increaſes in aſcending from one foot to twelve, and forms a diviſory wall about ſixty feet high, between the hole in the middle and the lateral one. Though the ſubterraneous rotundo is not furniſhed with conſiderable ſtalactites, yet it deſerves to be ſeen, deſcribed, and drawn, for its largeneſs, and ruſtick regularity, which render it ſingular. Nor ought this kind of cryptography to be reckoned uſeleſs, or even of little moment. It has ſuggeſted grand

* In the acts of Coppenhagen of *Bartolinus*, there is a deſcription of a ſimilar cavern in Iceland. *Act. Harp. T. 3. Trukillus Arngrimus deſcr.*

grand ideas to the boldeſt architects; and beſides tending greatly towards the progreſs of mineralogy, it often proves inſtructive in hydrography, and affords the moſt ancient and incontraſtible documents of the hiſtory of our globe.

From the many clefts, which run perpendicularly, and ſometimes obliquely into the mountain, and from the veſtiges of corroſion diſcernible in the walls all around, it may eaſily be deduced that water has been the architect of this work, operating in ſeceret for many ages upon the hard marble. I dare not, however, poſitively ſay that the rain water began ſo great an undertaking, nor would I venture to aſſert that the ſubterraneous running waters had effected it; becauſe many ſalient inequalities in the rock, near the plain, and conſequently ſubject to an accurate examination, are pierced and corroded preciſely in the ſame manner as the ſea water uſes to corrode and pierce the rocks of the ſame ſubſtance. And here it is alſo proper to remark, that the points of the rocks which remain bare on the ſuperficies of the hill about thoſe caverns are interſected by holes, windings, and cavities in the ſame manner; and although theſe are full of earth, and half covered with graſs, they appear plain enough to an eye accuſtomed to diſtinguiſh the work of the waves. Who knows what dreadful charybdis ſwallowed up, and regurgitated the ſea waters from thoſe concave rocks, in what remote ages, more ancient than hiſtory, or fable, or perhaps than the boldeſt conjecture of man? And as a confirmation that the waves of the ſea, in former times, filled this ſubterraneous gulf, there appears introduced between the diviſions of the convergent ſtrata, a ſecondary ſtratum of minute *breccia*, of very unequal thickneſs, which, by the nature of its compoſition, manifeſtly declares itſelf adventitious, and of poſterior formation

formation to the reſt of the mountain perhaps many thouſands of ages. This *breccia* is ſimilar to a fine ſpecies of marble in the iſland of *Veglia* called *Mandolato* by the artiſts. It is for the moſt part compoſed of white pieces, mixed with ſome of a pale red, united together by a ſtalactitic cement of a fleſh colour. In this third cavern or ſubterranean rotundo of Ghermoſall there are foſſil bones to be ſeen by the clear light of the day, as they were in the firſt by candle light; or to ſpeak more properly, there is a large maſs of that ſubſtance in which the foſſil bones of thoſe parts are conſtantly incloſed. It is ſituated oppoſite to the entrance of the cavern, about forty feet above the bottom of it, and about twenty below the ſuperficies of the hill, and the edge of the grand aperture through which the light deſcends.

Of Foſſil Bones.

Foſſil bones, which are ſo frequently found in Dalmatia, and were the principal object of our voyage, were firſt taken notice of, as far as I know, by the celebrated *Vitaliano Donati* of Padua, in his *Saggio ſopra la ſtoria naturale dell' Adriatico*. He had obſerved them in ſeveral places on that coaſt, where the deſire of acquiring new informations and knowledge carried him ſeveral times; but the want of means, which proved a conſtant obſtacle in other enterpriſes, ſuitable to his great learning, and declared genius kept him behind in the examination of this particular likewiſe. * It had been rumoured, that the quantity of thoſe

* Though *Vitaliano Donati* undoubtedly merits a very honourable place among the Italian naturaliſts of this age, yet no one has hitherto wrote his elegy, or collected his memoirs. He died a victim to his genius for natural hiſtory; and all the lovers of that ſcience will conſequently ſee with pleaſure, that he is ſtill remembered,

those bones was so immense, that the whole island of *Osero* was altogether composed of them. This report naturally made

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a great

membered. *Donati* was born in Padua, the 8th of September 1717. His family is of the citizens of ancient origin. Father *Vio*, the Jesuit, was his master in the grammatical studies; professor *Graziani* in philosophy; *Lavagnoli* senior in medicine; and the celebrated *Morgagni* in anatomy. He shewed, from his childhood, the greatest inclination for botany and natural history; and, at the age of twelve years, knew all the medicinal plants, and had made a collection of natural productions. When some years older, he profited by the friendship of the celebrated *Pontedera*, and was generously furnished with books and informations by the living professor *Vallisneri* junior. His best masters were, however, his own mountain and maritime peregrinations; which he began in Dalmatia in 1743, and continued them for five years. He was not able to go always alone; and on account of his straitened circumstances, which is bad company, he was sometimes obliged to travel with a rich person, which is often worse. He was at *Pola* with the celebrated Count *Gian Rinaldo Carli*, who, with patriotick zeal, had undertaken to illustrate the Istrian antiquities, not to leave it to strangers, to the shame of the Italian name; but there he did not observe much, and made some mistakes. He was chosen for adjutant to the marquis *Poleni*, publick professor of experimental physic, and cultivated under so great a master all the parts of physico-mathematicks. With him he made a journey to Rome, and there became an intimate friend of *Leprotti*, the papal physician, to whom he afterwards dedicated his *Saggio della storia naturale dell' Adriatico*, a work of great merit, which Count *Ginanni* of Ravenna endeavoured to depreciate, though with little success. The essay of our *Donati*, was published in 1750, and was afterwards translated into French. The fame which the author acquired, induced his Sardinian majesty to appoint him professor of botany and natural history at Turin. He went there, as may be supposed, very willingly; made many excursions among the mountains of Savoy, and Genoa, and would have been happy, could he always have conversed with the mountaineers, who generally are harmless people. The king, his master, sent him out of the way of his enemies, whose envy and hatred his merit alone had raised; he commanded him to set out on a voyage to Egypt, and from thence to visit Syria, Palestine, Arabia, and the East Indies, to make observations, and to collect the rarest productions of nature. In 1759, he was in Alexandria, saw Egypt, as far as the great ca-

taract

a great impreſſion on the minds of the curious; and beſides, it was known for certain, that quantities were found, not only on the coaſts of *Iſtria*, towards the *Quarnaro*, and in many parts of Dalmatia, but alſo on ſeveral iſlands without the Adriatick; all which ſerved more and more to embarraſs the moſt ſenſible heads, and to produce much nonſenſe from thoſe who know little, and think they know a great deal. We went with an intention to ſee with our own eyes theſe wonders in the iſland of *Cherſo* and *Oſero*, where we had been told there was no difference between houſes, mountains and burying places, but in hardneſs and in years.

We did not find, as we had been given to hope, any ſtrata of bones ſo extenſive, as could afford ground to imagine that the organization of the whole iſland was compoſed of them; yet nevertheleſs the quantity which we met with, is ſufficient to raiſe wonder and ſerious reflection. The frequent heaps that are ſeen, the ſameneſs of the ſubſtance, the variety of the poſitions, and the identical materials of the congeries, might give room

taract of the Nile, and a great part of Paleſtine, Arabia, and Chaldea; and, in all thoſe travels, was expoſed to ſuffer the cruel conſequences of a bad choice which he had made of his companions. While he ſtaid at *Baſſora*, waiting for orders from court, he fell ill of a putrid fever, and died in a few days. M. *Granger*, who was ſent by the court of France, to travel in Egypt and the kingdoms round it, for natural hiſtory, had alſo the ſame fate in 1734, two days journey from *Baſſora*. The news of his death came to Turin about the end of October 1763. He left in manuſcript two volumes in folio, which his friends, and all the learned wiſh to ſee publiſhed. A diſſertation of his *de Antipate* was inſerted in the *Giornale d'Italia*: but it ſeems to require to be retouched on the original.

I owe all theſe memoirs to Doctor *Genuari* of Padua, an intimate friend of *Donati*, and well known in the literary world.

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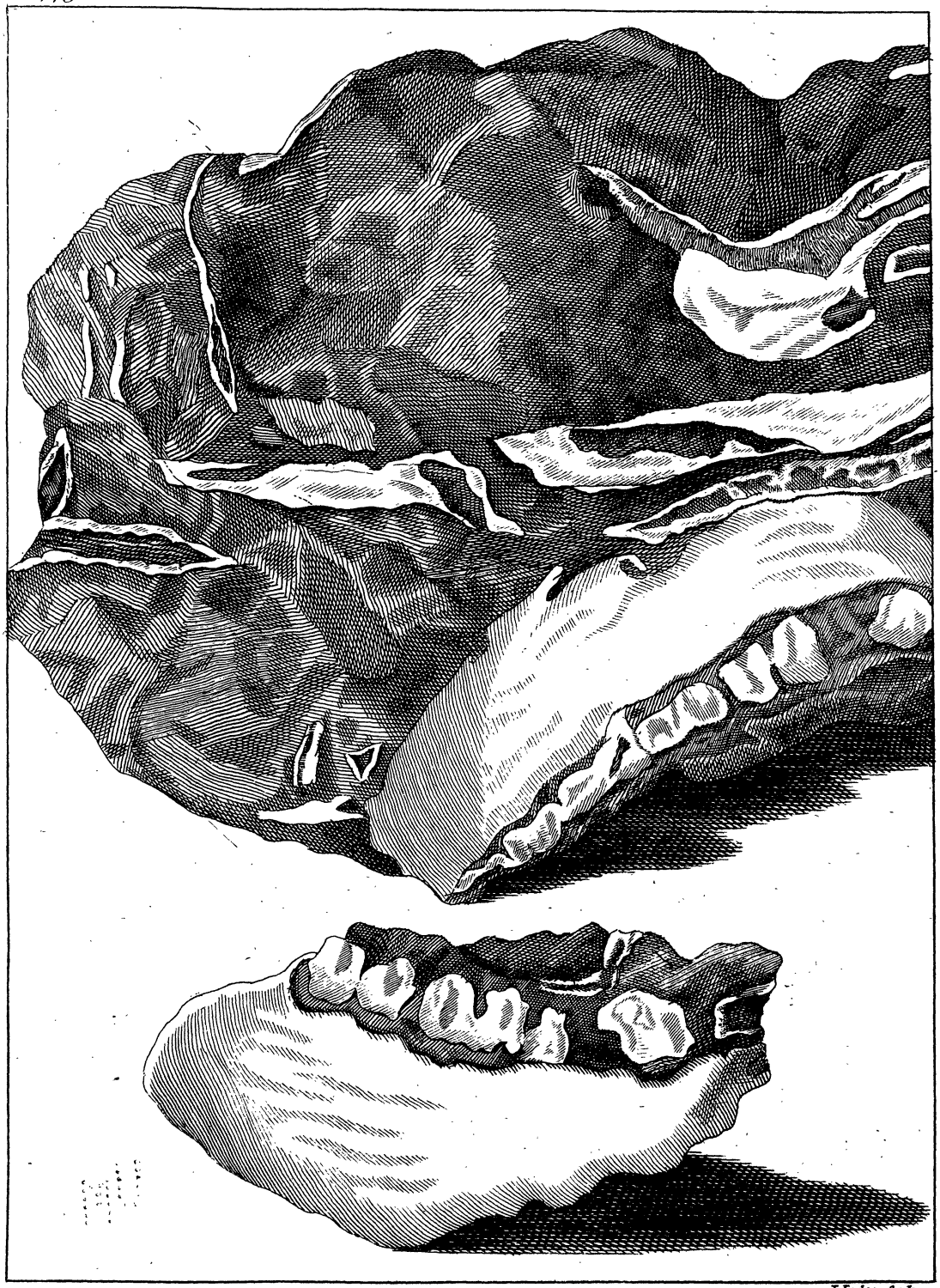

J. Lodge Sculp.

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room to conjecture, at firſt ſight, that one immenſe ſtratum had been compoſed in remote ages; but who can pretend to imagine how remote? There are various ſpecies of terreſtrial animals, ſometimes comminuted and confuſed, and ſometimes perfectly well diſpoſed and diſtinguiſhable. The places moſt known, where they are found, are along the coaſt, in the vertical and horizontal chaſms, or in the diviſions of the marble ſtrata which form the baſe, and the hills of the iſlands. The fiſhermen and ſeamen, who, in ſmall barks, uſually kept near the ſhore, can point out many of thoſe ſpots; and the ſhepherds are acquainted with thoſe within land, and in the caverns. Chance might diſcover new collections to obſervers, as it did to us, if the lovers of natural wonders came more frequently on that coaſt.

Every heap of bones, whether in the vertical or horizontal clefts, is, as it were, wrapt up all round in a kind of ſparry ſtalactitick ſhell, three or four inches thick, which incruſts the ſides of the fiſſure, and follows all the ſinuoſities exactly. Where the congeries of bones is horizontal, it is always accompanied by the ſparry cruſt, and not only is divided by it from the lower ſtratum, but evidently ſhews to have been alſo coated above by the ſame cruſt of reddiſh diaphonous ſpar; which proves to every one, who is a little acquainted with the interior parts of the earth, the exiſtence of one, or more ſtrata of calcareous ſtone formed on thoſe heaps of bones, but now deſtroyed by time. Were we not to ſuppoſe this, we could not underſtand how ſuch a remarkable ſparry cryſtallization came to be formed.

The ſubſtance of the bones is ordinarily calcined; ſometimes it is found penetrated by pyritical fluors, which are commonly called *denditri*. The fiſtular bones, as thoſe of the arms and

legs, are lined within with a cruſt of gemmeous ſpar, lucid, and exceedingly pure, like a cryſtallization made by a difficult filtration through a very compact body. The *acetabuli*, and ribs, and generally all the ſpungy bones, preſerve exactly the whiteneſs of calcination in the ſmalleſt *comina*, or partitions of their cavities. When not very ſmall, they are full of an ochreous ſtoney matter of a reddiſh colour; and when very ſmall, they are entirely coated with a ſtalactitic ſhining reddiſh cruſt. Of the horny parts of animals, no veſtige is found. The teeth preſerve the natural brightneſs of their enamel, and are often found placed in their native jaws and holes. They are frequently, however, found ſeparate, and leave no doubt about the ſpecies of animals to which they belonged. Excepting the teeth and jaws, we could not find any other part of the *cranium* well preſerved, and that was not equivocal.

Having examined ſeveral months before I went to the iſland of *Cherſo* and *Oſero* with my learned friend Mr. Symonds, and profeſſor Cirilli, a piece of a congeries of Illyric bones, we found a human jaw, a *vertebra*, and a *tibia*, alſo human, ſomewhat larger than uſual in our age; ſome ſheeps bones, and teeth of oxen and horſes. The celebrated anatomiſt, Doctor *Leop. Caldani*, who does ſo much honour to the univerſity of Padua, aſcertained them. The noble Signor *J. Moroſini*, a great lover and cultivator of botany, and a diligent collector of marine curioſities and foſſils, has many pieces of theſe *oſteolithi*, and particularly ſeveral brought from the iſlands *Apſyrtes*, of one of which I thought proper to have the figure engraved. In one of them there is a jaw divided in two by a ſtroke given to its matrice, ſo that the half of one, and half of the other ſide appears.

Together

Together with theſe bones, are united by the ſame cement, many pieces of various ſize, and a great number of ſplinters of white marble, angular, ſharp, and of conſequence never rounded by the waters. It happens alſo ſometimes, that, in a great heap of ſuch pieces and ſplinters of marble, none at all, or a very few pieces of bones are found. The cement, that joins them together, is however conſtantly reddiſh, and of an ochro-tartarous nature. When expoſed to the air, it becomes more firm, and almoſt doubly harder than it was before detached from its native poſition. No veſtige or fragment of marine bodies can be diſcovered, either by the naked eye, or by the help of glaſſes, mixed with the bones; though the ſtrata on which they lie, and thoſe above them, are full.

I know very well, that in many other parts of Europe, foſſil bones of wild beaſts, and perhaps of men, are found. The celebrated Geſner, in his treatiſe on the origin of petrifactions, ſpeaks of an anthropolite, which, however, is not very ancient; in the Philoſophical Tranſactions,* mention is made of a human ſkeleton

* V. Philoſophical Tranſactions for the year 1745. No. 475. art. vi. In the ſhire of Derby, in a ſtratum of marle of no very good quality, were found ſome deers horns, and alſo a ſkeleton, thought to be human. When it was expoſed to the air, the bones all fell into powder, and only the teeth could be collected, being preſerved by their varniſh. Scheuchzer, in his Alpine travels, ſpeaks of foſſil bones obſerved by him, and alſo publiſhed a pamphlet with this title, *Homo Diluvii teſtis*, and afterwards had it engraved on copper, and inſerted in his *Phyſica ſacra*. The figure which he has repeatedly given of that petrified carcaſe, reſembles a human ſkeleton ſo little, that there is much reaſon to doubt of the fidelity of that illuſtrious naturaliſt's eyes. Every body knows that Kircher was apt to ſee one thing for another, and was too fond of the marvellous. I ſaw at Rome, in the *muſeum Kerkerianum*, the foſſil bones of the cave of *Palermo*. They are

ſkeleton found at Derby; *Hoppelius* relates at large the diſcovery of another human ſkeleton made at Aix in Provence; both Scheuchzer,

are encruſted with ſtalactites, and perhaps by the work of art; their form, and the whiteneſs of the calcination, are exactly preſerved; in ſhort they are perfectly diſtinguiſhable bones. Notwithſtanding all this, Father Kircher calls them *oſſa lapidea*, and *purum naturæ opus*, meaning the *natura mineralis*. That good father, who had all the reſolution, aſſiduity, and talents requiſite for an obſerver, had the misfortune to have gone through a courſe of antiquated phyſicks; and hence he explained every phenomenon by the barbarous jargon of the ſchools. *Mercati* likewiſe, who muſt have ſtudied under maſters full of prejudices, and was deprived of the good books of foreign obſervers, which in his time were held in abhorrence at Rome, has filled his *Metallotheca Vaticana* with wretched things. He talks, in that work, of foſſil bones as of *natural productions* of the ſubterranean kingdom, grown under ground in the dark, by means of *the expanſion of the primitive forms*; an explanation that would ſcarcely be ſufferable in the mouth of a ſcholaſtic friar, or a country curate. *Hoppelius*, though he lived before *Mercati*'s time, did not call in queſtion the truth of the human ſkeleton, found near Aix in Provence, the bones of which became duſt when expoſed to the air, and the brains were changed to a kind of cake. In our days the favourers of the *luſus naturæ* are reduced to a ſmall number, and M. de Voltaire, who chuſes to appear one, for his amuſement, is too reaſonable to be ſeriouſly of ſuch an opinion. The antropolite of Geſner, of which we read the ſtory in the treatiſe *de petrificatorum originibus*, is the work of a few years, and not to be compared to the foſſil bones of Dalmatia. Perhaps thoſe of the celebrated grotto of *Baumann*, in the Ercinian foreſt, are equally ancient; or thoſe in the great cavern of *Schartzfeld* of *Hertz*; or thoſe which the famous M. *Guettard*, prince of the French naturaliſts, diſcovered in the diſtrict of *Eſtampes*; thoſe obſerved by M. *Aſcanius*, in the chaſms of the mineral mountain of *Toberg*, in Sweden, or thoſe which are found near *Conſtadt*, illuſtrated by David Spleiſs in his *Oedipus Oſteolithologicus*. In the Veroneſe hills, beſides the famous ſkeleton of the deer, Spada found thoſe of various other animals. In Arragon, near the village of *Coucout*, there is a prodigious quantity. In Tuſcany, the carcaſſes and bones of elephants found buried and petrified under the hills, are well known. If M. *Robinet* had adverted to all theſe inſtances, he probably would not have ſaid, that nature was ſtudying the project of making man, when ſhe formed thoſe organiſed bodies, which in time became petrifactions.

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Scheuchzer, and Kircher, ſpeak of foſſil bones of the ſame ſpecies with ours: but the greateſt part of thoſe pretended carcaſſes and bones may be ſubject to doubts. If even all the foſſil bones mentioned by various authors were really human, our Illyric bones would not be leſs worthy of particular conſideration, as they far exceed all hitherto known by the naturaliſts in preſervation, frequency and quality. In our journey over the iſland of *Cherſo* and *Oſero*, which was rather ſomewhat haſty, we could, in ſeveral places, cauſe them to be dug up under our own eye. There are two different heaps on the iſolated and deſert rock of *Gutim*, though we were told only of one of them on the ſpot, and did not find the other; a mile from *Gutim*, at a place called *Platt*, on the iſland of *Cherſo*, other heaps are ſeen. We found them, as I obſerved already, in the caverns of *Ghermoſhall*, and at *Porto-Cicale*, in the poſt of *Valliſhall*, and at *Balvanida*, on the other ſide of the ſtrait, not far from *Luſſin picciolo*. From thence paſſing over to the ſmall iſland called *Canidole picciola*, and *Stracane*, in the language of the country, we diſcovered two large heaps; afterwards, we went over to the ſmall iſland of *Sanſego*, about eight miles diſtant from *Luſſin picciolo*, and were ſhewn, at a diſtance, the place where they lay, at the foot of a hill of ſand, of which the iſland is compoſed, and of which I ſhall ſpeak more at large. Though the ſoil of that iſland is very far from being ochreous or irony, yet, there alſo, the bones are wrapt in their uſual martial lapideous earth, and accompanied with ſtones and ſplinters of marble. The ſame characters accompany the Illyrick bones over all the iſlands, and along the coaſts of Dalmatia, where the mariners uſe to ſee them frequently, and where they were obſerved by the above mentioned *Vitaliano Donati*, in the ſeveral voyages he made from 1743 till 1748. Mr. Martin Thomas Brunnich,

profeſſor

profeſſor in the univerſity of Copenhagen, in his travels through Dalmatia, found ſome of thoſe bones in the *Iſole Coronate*, and was convinced they were human. They ſay there is alſo a great deal of them along the torrent *Cicala*, between *Sibenico* and *Knin*; near Zara, and at *Rogoſniza*, in the bank called *Raſip*, and in *Iſlola groſſa*. Nor is there any conſiderable difference between thoſe found in Dalmatia and at *Corfu* in the Ionian ſea, where there are great quantities, at a place called *Fuſtapidama*. Only at *Cerigo*, where many are dug up, the appearance is ſomewhat altered, the colour being leſs dark, the ſtone in which they are incloſed harder, and the bones themſelves more cruſhed. A French traveller, whoſe name I do not at preſent recollect, writes, that many foſſil human bones are alſo found in the iſland of Cyprus, and I think he mentions particularly a whole ſkeleton.

This extraordinary abundance of bones, their conſtant confinement in a lapideous ochreo-ſtalactitic earth, the poſition of the various heaps obſerved by us, and the ſame correſpondency which we diſcovered in the caverns of *Ghermoſhall*, beſides giving ground to ſuſpect that a ſtratum had been formed in remote ages, might alſo raiſe not a very unreaſonable conjecture, that this ſtratum, alternatively compoſed of marble ſplinters and bones, extended from the northern ſhore of the *Quarnaro*, to the iſlands of the Egean ſea, and probably ſtill farther. This conjecture, though, to ſome, it may appear too bold, will, I apprehend, not be thought ſo by thoſe who are uſed to obſerve the courſes of ſtrata generally traverſing vaſt tracts of country, and correſponding together from one to the other ſhore of the ſea. The coaſts of France have that kind of correſpondency with thoſe of England, which lie oppoſite to them; and

from

from one ſide to the other of the Apennines, the ſtrata of calcareous ſtone of marine original, are ſeen to run around the large hollows, excavated by the impetuous torrents for many miles. The not finding an uninterrupted continuation of the heaps of Illyric bones, does not afford a ſufficient ground to deny the exiſtence of ſo wonderful a ſtratum. A thouſand examples of large inſulated maſſes, commonly found diſperſed among the mountains, of a very different ſubſtance from thoſe that ſurround them, diſcover, and prove at the ſame time, the exiſtence of ancient ſtrata deſtroyed by the waters, and time; nor do they leave the leaſt room to doubt of this truth. Beſides thoſe who might think ſuch an argument againſt this conjecture concluſive, ought to conſider, that thoſe congeries are found not only of bones, as has been taken notice of above, but ſometimes of marble ſplinters alone, in ſome places, diſpoſed horizontally, and in others inſinuated into the clefts or chaſms, preciſely in the ſame manner as the bones. One would not eaſily be induced to believe, that theſe bones, ſplinters, and ſtones, have been ſo carefully buried by the hands of men; and that ſuch numerous heaps can be the reſult of burials. The not finding whole ſkeletons, * but rather every thing confuſed, broken, and mixed with reliques of various animals, ſeems to deſtroy entirely all probability of ſuch a ſuppoſition. And if even we were to imagine that all thoſe bones had been interred on pur-

* After we were returned from the iſland of *Cherſo* and *Oſero*, our kind hoſts acquainted us, that, after our departure, a whole human carcaſe had been diſcovered in a rock, and invited us to repaſs the gulf, to overſee the cutting of it out. Circumſtances did not permit us to attend to this invitation; and who knows how ſo rare and valuable a monument of the antiquity of our ſpecies may have been treated by thoſe people.

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poſe in ſuch numerous burying places; how many ages would have been requiſite to render them ſo very frequent, and how many more to raiſe from their level the hills and eminences, under the baſes, or in the hearts of which the bones lie in heaps? And in what age can we imagine that thoſe countries were inhabited by a nation, that pre-exiſted the formation of the marine hills, and iſlands, which in our days are ſeen in the Adriatick?

I am far from venturing to give my opinion about the origin of ſo ſtrange a phenomenon; and ſhould indeed be quite at a loſs how to give it, as every conjecture, that I can think of, is expoſed to unanſwerable objections. If I could, like ſome who have treated ſimilar ſubjects, attributed all the organiſed foſſils to a *luſus naturæ*, by following the ſacred footſteps of the venerable ignorance of the ſchools, I might diſpatch the explication of this or any other phenomenon, in a few words, only by ſaying they were effects of the flood, Volcano's, or earthquakes. Notwithſtanding the good philoſophy, and phyſical obſervations of this age, there are ſtill ſome, who, in treating of a point of natural hiſtory, either give too much ſcope to a warm, or prejudiced imagination, or follow implicitly the ſtate and unphiloſophical doctrines of the thirteenth century; but I am not willing to put myſelf among their number, in order to ſhorten diſcuſſions. I know well, that, by haſtily forming, or adopting ſyſtems, philoſophers often wrong their own genius, as well as the truth, and, on the other hand, am convinced, that the author of nature is not capricious in his works, and that the ſound philoſophers of our times laugh at plaſtick powers, and archetypal ideas, or ſuch like ſcholaſtick barbariſms.

I think,

I think, that, in treating of extraordinary phenomena, hard to be explained, and liable to difficulties on all ſides, the beſt method that can be taken by any perſon who is the firſt to write purpoſely concerning them, is to relate ſimply, and to deſcribe, with the moſt ſcrupulous and exact preciſion, every thing he has ſeen or obſerved on the ſubject. Every body is at liberty, afterwards, to explain them his own way, either according to the ſyſtems of others, or by ſome new hypotheſis formed on purpoſe. For my part, I am perfectly convinced, that I have not the neceſſary *data* for a ſatisfactory explanation, and therefore will not hazard a conjecture concerning the ancient origin of the Illyric foſſil bones; but at the ſame time am very ready to attend to any perſon who will undertake to ſolve my doubts. Theſe foſſil bones, are, in my opinion, one of the moſt important objects about which the learned curioſity of the naturaliſts can be employed; and it were to be wiſhed, that ſome of them, led by genius, would give us an account how far preciſely thoſe ſtrata reach over all Dalmatia, and the iſlands of the Levant.

Of the Nature of the Marble, and Petrifactions.

The foſſil bones, encloſed in the lapideous earth before deſcribed, are not the only lithological curioſity of the iſland of *Cherſo* and *Oſero*, and thoſe adjacent to it. The nature of the marble, of which they are almoſt wholly compoſed from the top to the bottom, merits particular attention. They are differently organiſed, and the component parts of the various ſtrata are alſo combined with ſome diverſity; and ſometimes a ſmall diſſimilitude may be obſerved between the parts of the ſame ſtratum, at any conſiderable diſtance the one from the other:

but as their direction is always conſtant, ſo are the principal elements conſtantly the ſame in each ſtratum, notwithſtanding the various diſtances of its parts. The ſtone which occupies the higheſt parts of the iſland, as well near the lake of *Jeſero*, as about *Lüſſin picciolo*, is analogous to the common marble of *Iſtria*, only it contains a greater quantity of marine bodies of the moſt diſtinguiſhable ſpecies, and which uſually are better preſerved than the others, I mean *phacites* and *elicites* of every variety and ſize. The quantity of theſe bodies ſemipetrified, or changed into ſtalactites, but not become of equal hardneſs with the matrice in which they are contained, renders that marble, leſs ſtrong, and leſs apt to reſiſt the action of the air, and corroſion, than the Iſtrian. The ancient ſea bottom, hardened by time, and the operative faculty of the waters uniting the particles moſt apt to concrete in cryſtals, has been abundantly peopled with large and ſmall *nummali*, and fragments of them, many ages before it was expoſed to the open air. Theſe adventitious bodies, of which the ſpecies is juſtly ſuppoſed to be loſt, were probably not ſo eaſily compreſſible as other ſofter and unconnected parts of the mud; hence it would follow, that, preſerving ſome degree of their diſpoſition towards calcination, they were ſhut up in the petrifaction of large ſtrata. Whenever it happens that they are expoſed to the violent action of any exterior force, they ſoon begin to be diſcompoſed, in ſuch a manner, that the ſuperficies of a piece of this ſtone, which is almoſt half compoſed of them, ſhews manifeſtly its diſpoſition to be diſunited, reduced into powder, and conſumed by time. Notwithſtanding, however, this ſmaller degree of hardneſs which the *nummali* have when incloſed in the ſtrata that compoſe the tops of the mountains of the iſland, they uſe, when entire, to reſiſt time and corroſion better than the reſt of the ſtone, in conſequence

ſequence of their ſtructure, which, between the *lamina*, left room for a ſparry cryſtallization. Hence the *nummali* and *frumentarie* of *Cherſo* remain conſiderably prominent, and leſs worn than the ſtone in which they lie, though they are evidently not ſo hard; which is a proof that the greater or leſſer ſolidity and apparent compactneſs of a body, is not a ſure rule of proportion to determine the durability, which rather depends on the ſecret nature and diſpoſition of the particles whereof it is compoſed, and the ſpecies of force actuating towards it deſtruction. And though the cauſe does not appear outwardly, the ſame thing is frequently ſeen in various kinds of foſſil matter, and the extraneous body, though ſpecifically leſs compact, reſiſts longer than the marble, or *ſchiſtus* in which it is contained. The ſmall differences of the combination of the elements, which concurred to form any portion of a ſtratum, and the very minute varieties of ſituation, air, earth, water, and effluvia not reducible to calculation, are altogether, or taken ſeparately, the cauſes of the moſt remarkable differences between ſtones, which, however, have all the ſame baſis. Mineral ſubſtances when diſſolved tinge the earth, of which the hardeſt marble is formed, of various colours, in proportion to their quality and quantity; and it happens not unfrequently, that marble ſtrata, already hardened, through the intervention of water or fire, imbibe, or open their pores to let in a colouring matter, or mineral *effluvium*, which changes their ſecondary qualities almoſt radically. Hence, taking the whole lithological kingdom together, it may freely be aſſerted, that the waters charged with heterogeneous particles, and the ſubterranean vapours, have almoſt as conſiderable a part in the alterations of the combination of ſtones, as the vulcanic fires, which melt, reduce to aſhes, and mix with an infinite variety, the ſubſtances variouſly combined, on which they

they act with different degrees of force. The *nummali* shut up in the real marble, and the calcareous stone of *Osero* and *Cherso*, are of the flattest kind, and of various sizes. Many of them have above three inches in diameter, and two or three lines of thickness, and are horizontally placed; some others, of a size not much different, are in a vertical position; and others are also found in a posture somewhat inclined. From the bigness of above three inches diameter, they diminish by degrees to the smallest *frumentaria* or *phacites*; and to see this, the observer has no need to multiply his examinations of different pieces of stone, as very often all the varieties are contained in one piece alone. The piece represented in Fig. 11. will serve as an example.

The other sort of marble which is seen naked on the shores, and constitutes the base of all those islands, having constantly above it another stratum of about three feet deep, of precisely the same substance, is well worthy of attentive and diligent observation. Both these strata are of a dirty whitish colour, spotted and bespangled with very white crystallizations, which sometimes are lodged between the fissures of the earth petrified by them, running through the fissures in very minute diramations; sometimes they have occupied the place of marine bodies calcined, and perhaps in part destroyed before the induration of their actual matrice. Among these, some *turbinati* are distinguished, which appear to be of the hardest spar, and a great number of whitish fistular bodies of the same substance, which, at first sight, might be taken, and which I actually mistook for bones. The stratum washed by the sea on the coasts of *Istria* and *Liburnia*, is composed of the above mentioned materials, and it is evident enough, that the base of the island of *Cherso*

and

and *Ofero*, and of the adjacent iſlands, is only a continuation of the ſame, and formed at the ſame time by a very ancient ſea, and in leſs remote ages, though always very far from ours, interrupted by a new ſea. And certainly the Adriatick of our days, ought to be called a new ſea, very different from the ancient ocean, which formed the whole of that tract of country, which the Adriatick, and the rivers, by little and little, go on corroding, if the ſpoils of animals, ſtill preſerved in the bowels of thoſe vaſt petrified ſtrata, are of totally different ſpecies from thoſe that now inhabit our ſeas. I know not what the biſhop *Brouallius*, profeſſor Bring, and the other antagoniſts to the diminution of the waters, and their change of ſeats, could anſwer to theſe manifeſt facts. They were certainly in the wrong to call in religion to the aſſiſtance of their favourite hypotheſis, endeavouring to oppoſe and overthrow the obſervations of the moſt learned naturaliſts, by arbitrary interpretations of ſacred texts. Religion never is a gainer on ſuch occaſions; witneſs the abjuration of *Galileo*, which does ſo much diſhonour to Italy.

The marine air, and perhaps the ſea water, which has always ſomething of acid in it, make a very curious operation on the ſuperficies of the ſpecies of marble expoſed to their activity. It would have been thought extravagant enough if any body had pretended to deſire, or hope, that the moſt diligent ſtone-cutter in the world, by means of a chiſſel, or the moſt profound chemiſt, by means of ſome menſtruum, ſhould ſhew us the courſe, and diramations of the veſſels in ſtones; many lithologiſts by profeſſion would never even have ſuſpected their exiſtence. I had however the pleaſure of ſeeing this executed in the moſt maſterly manner along the ſhores of thoſe iſlands, and ſometimes on the lower parts of the hills. The points of the ſecond ſtratum, that

are

are not ſullied and disfigured by the ſalt waters, coriacious or ſtony lichens, *muſcus*, *balani*, or labours of marine inſects, but corroded only by the air, and the aſperſion of the waves, ſhew the internal texture of the marble, and the moſt intricate paſſages of the ſmalleſt canals, in which the ſparry ſubſtance is depoſited and cryſtallized, opening the way between the diviſions, and between the ſmalleſt lumps of the particles of clay not ſufficiently hardened, which it proceeded to petrify, when aſſiſted by the waters that ſerved as its vehicle. The action of the moiſt and ſalt air, and the drizzling of the ſea water concurring in the decompoſition of thoſe marble ſtrata, ordinarily finds the pure calcareous cryſtallized ſubſtance leſs eaſily diſſolvable, becauſe its parts not being amalgamated with the clay, are more in a condition to reſiſt, as being more continued, compact, and adherent; and hence, corroding all round it, leaves prominent every one of the ſmall canals above mentioned, together with all their capillary ramifications. Though this exact anatomical ſyſtem cannot be obſerved in every ſpecies of marble, and perhaps in ſome kinds the obſervations may ſeem at firſt ſight directly oppoſite, yet I think we may reaſonably conclude, from the reſult of the combinations concurring in the formation, and diſſolution of the marble of *Cherſo*, that all, or the greateſt part of the ſtones, which owe their origin to the water, were rendered ſolid, and continued by the ſame operation of nature; from whence, perhaps, ariſes a new chain of coherence and analogy between the mineral kingdom and the other two. The examination of a variety of agates and jaſpers containing curious ſpots, ſhades, and herborizations, if made under the eye of a ſkilful lithologiſt, might contribute much to confirm the ſimilarity and connection juſt mentioned.

Beſides,

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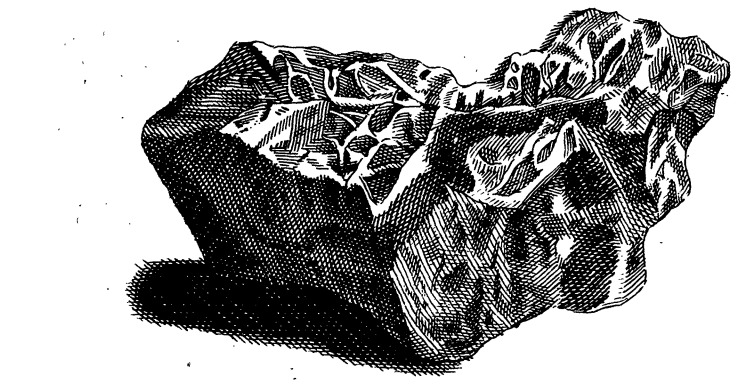

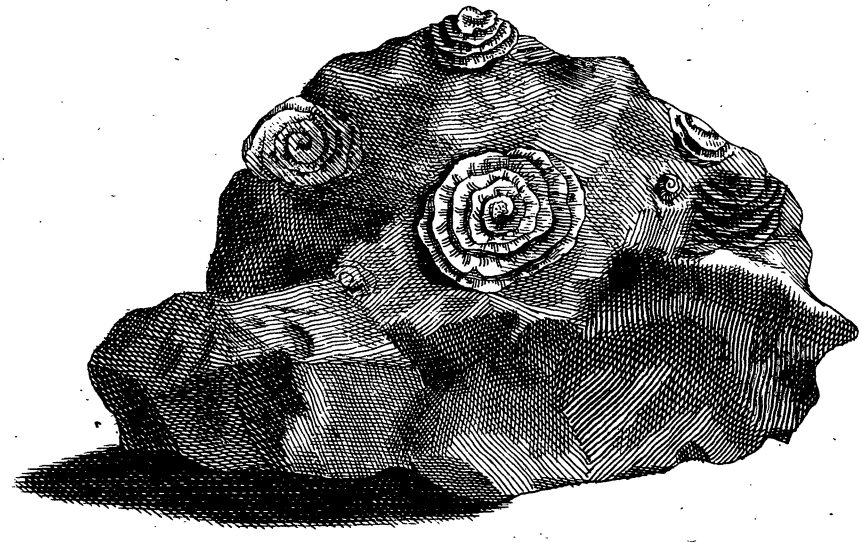

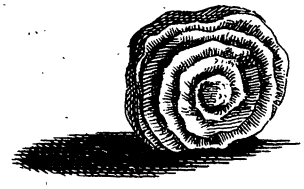

J. Lodge sculp.

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Beſides the petrifactions contained in the hard marble, and not diſcernible any other way but by the corroſion of the ſuperficies, I found, in the ſmall port of *San Martino*, near *Loſſin*, ſome large ſpecies of tophaceous ſtone almoſt entirely compoſed of *nummali* of all ſizes, from the largeſt to the ſmalleſt, but all of one ſpecies, which has the ſpiral and the diviſions of the cells prominent on the outſide. This ſpecies, which is very common in the hills of *Cormons* in *Friuli*, and in ſome parts of the Vicentine territory, has not been drawn by any body, as far as I know. I cannot, however, affirm that it belongs naturally to the iſland of *Cherſo* and *Oſero*, having only ſeen on the ſhore of *San Martino* ſome detached pieces, which could not give ſufficient ground to ſuppoſe that there was a ſtratum of the ſame ſubſtance in the neighbourhood. The *nummali* are quite different from thoſe above deſcribed; and it appears rather probable, that theſe ſtones have been brought there as ballaſt, either from ſome place far off, or perhaps from ſome iſland in the neighbourhood. And this conjecture ſeems ſo much the more reaſonable, as there is a great quantity of *nummulari* in the iſland of *Veglia*, near the caſtle of *Dobrigno*. And here I think proper to take notice, that none of the ſpecies of *nummali* which I have ſeen, either among our hills, or on the other ſide of the gulf, reſemble the figure given by the celebrated *Linnæus* in his *Amænit. Academicæ*, vol. iv. I may even venture to ſay, that this celebrated naturaliſt was miſtaken in believing he had found the marine original of theſe adventitious productions of the foſſil kingdom. The ſtrata of marble *breccia*, of which I took notice, in ſpeaking of the grotto of *Ghermoſhall*, are neither large nor regular, and therefore do not deſerve to be treated of again.

Of ſtones, or hard fluors, ſuch as quartz, cryſtals, agates, flints, chalcedonies, or jaſpers, nor of mines, there is no veſtige

found in that part of the iſland which we examined. Perhaps ſome ſpecies of thoſe ſtones might be found in the northern part of the iſland, which our time did not permit us to viſit; but it is more likely that there are none.

Of the Courſe of the Strata.

One of the principal reaſons for my being of this opinion, though not confirmed by obſervations made ſtep by ſtep, is, that the ſtrata correſpond exactly, as well in regard to the poſition as the ſubſtance, from the mouth of the river *Arſia* to the furtheſt point of *Oſero*. The marble which ſurrounds the port of *Dubaz*, ſituated in the woody peninſula adjacent to the mouth of the *Arſia*, and which is the ancient confine of Italy on that coaſt, has no character that diſtinguiſhes it from the marble that forms the baſe of the ſmall iſlands and rocks adjacent to *Cherſo* and *Oſero*. It is true, that the continuity of the ſtratum might, by ſome particular accident, have been interrupted, and the ſimilarity of the divided parts ſtill ſubſiſt; but a revolution of that kind would have produced conſequences of which the veſtiges would have remained viſible enough in the ſouthern parts of *Cherſo* and *Oſero*, which we viſited, and where no ſigns of ſubverſion or ruin are ſeen. The ſtrata, of which the mountains and ſmaller hills of that tract of country are formed, are generally very regular, and without any conſiderable interruptions. There are many of theſe however, in ſome places, manifeſtly produced by the waters, which alſo gave origin to the gulfs, and their ſinuous adjacencies.

The attentive conſideration of the internal ſtructure of the iſland has confirmed me ſtill more in the opinion which I had before, through the frequent uſe of obſerving the mountains and hills of the continent, concerning the ſalient and re-entrant angles

gles of Bourquet. A celebrated naturaliſt has brought them in vogue on the faith of their author; and many more of leſſer fame adopted them as a demonſtrated truth. I however conſtantly believe, and dare aſſert, that this ſyſtem of ſalient and re-entrant angles cannot be adopted univerſally to the mountains, and much leſs to the ſea ſhore. It is very true, that the correſpondence of the angles is ſeen very well expreſſed in the ſides of ſome vallies; but there are few vallies among the mountains that do not owe their excavation to the waters of rivers, or torrents, the conſtant nature of which is to form an angle, or a ſalient curvature oppoſite to every new corroſion. But where the waters have not been able to work in their uſual way, and where the vallies were formed by little hills, or vulcanic hills produced in various times, and with little order, there no mark of the pretended univerſal correſpondence is ſeen. To ſet ſtill in a clearer light the error of this hypotheſis given out as a conſtant obſervation, it is proper to repeat, that the horizontal, or inclined ſtrata, which are the moſt common, and neareſt to their ancient natural ſtate, correſpond together from one chain of hills to another; though they may be divided by very broad vallies, which manifeſtly demonſtrates an ancient continuity, as well as the diſſolution of the large portion of mountain that exiſted before thoſe great hollows.

And hence it may eaſily be perceived, how little probability there is, that the hills, in their firſt foundation, have been formed by the great Architect at correſponding angles, leaving, as it were, the *dentelli* of the ſtrata ſuſpended round the vallies; for according to all appearance it may be reaſonably concluded, after the moſt diligent obſervations, that no veſtige, or clear proof remains, in our days, of *primitive* hills, or that may with propriety be called ſo. Thoſe which we

know, are manifeſtly produced, either by volcano's, which have burnt in almoſt every region of our Globe; or by the ſea, which in paſt ages covered it altogether, or alternatively; or by the ſea and volcano's at the ſame time.* And it appears not improbable, that the moſt ancient protuberances of our globe were much more vaſt and regular, though quite different from the ſtructure of thoſe we now ſee.

Concerning the other ideas of Bourguet, who after having eſtabliſhed obſervations by no means exact, imagined by way of corollaries the paſt ſtate of the earth, and found the preciſe time of the deluge, (as if there had been but one) and then pretended to forſee the ſubſequent alterations and tranſformations that are to happen in it, I think it needleſs to take any further notice. Syſtems, and theories reſemble hitherto, and are like to reſemble in time coming, (till a ſufficient number of good obſervations are made) unripe fruit, which ſpoils in a ſhort time. That of Bourguet ſeems to have found more partiſans then it deſerved, and ſeveral of them have gained themſelves no honour by adopting it. It was ſufficient, indeed, to ſtay in their chambers, and to theoriſe at their eaſe on good geographical maps, concerning the truth of the propoſition

* In the celebrated mountain of *Bolca* ſituated in the Veroneſe territory, the co-exiſtence of the ſea and of ancient volcanos is manifeſtly ſeen. In our times, that is in the begining of this century, the iſland or rock of *Santerini* was raiſed out of the bottom of the ſea by a volcano. In the valley of *Ronca*, between Vicenza and Verona, the ſides of the hill ſhew the ſtrata alternately formed of the ſpoils of the ſea, and of vulcanic eructations; and the petrified ſhells, that are found there, are often tinged with black and drenched in bitumen, and the largeſt *oſtracites* lie involved in the *lava* and are full of it.

opinion *that the ſides of the large vallies, as well as thoſe of the ſhores of the ſea, correſpond with one another*; and I who have taken the trouble to examine many of them, am perſuaded, *that neither the ſides of the ſea ſhores, nor thoſe of the large vallies, conſtantly correſpond with one another.*

The ſtata of the iſlands of *Cherſo* and *Oſero* are very regularly formed. They paſs from one hill to another with a kind of undulation, which probably has been, nay doubtleſs has been, the work of a vaſt Ocean. The iſland is too old, and has undergone too great a number of changes, as well as the reſt of the globe, for us to form any certain judgment concerning its ſuperficies. It is certain, however, that no veſtige now remains of the ancient ſuperficies, as even the order of the organization is altered in the inland parts, as well as on the ſea coaſt. The rain waters, the ſubterraneous cavities, the abſorptions, and ſometimes more ſubitaneous agents, have made great ruins. The waves waſh away and deſtroy ſome of the littoral hills; and hence the obſervation of the ſtrata that remain expoſed to the eye on the exterior part of the iſland, are enough to embarraſs any haſty fabricator of ſyſtems. Some of them are inclined towards the ſea, and, from root to root of the hills, deſcribe arches bending outwards: but this direction is not conſtant. Here and there, contiguous to the arches bending outwards, other arches are ſeen, which bend, in a contrary ſenſe, inwards, manifeſtly oppoſing themſelves to the waves with a kind of pride. The explanation of this fact is, however, not difficult, though it might ſeem contradictory. The littoral hills in thoſe parts, particularly thoſe of *Oſero*, are formed of marble ſtrata, the one diſpoſed above the other in ſuch a manner, as reſembles, in large, the ſtructure

of

of the Bezoar ſtone, but they are not ſo diſpoſed in a right line, that the ſea waters can do equal damage to each in diſcompoſing the roots, and conſequently in diſtroying the ſides and tops. Hence the ſtrata of thoſe hills that were more expoſed to the force of the waves, muſt have been more eaſily, and in a ſhorter ſpace of time, corroded, diſconnected, and overturned beyond their common centre, which is the perpendicular let fall from the top of the hill where the inclination towards the ſea ends, and the declivity towards the internal part of the iſland begins. In the courſe of ages, theſe hills, the roots and interior parts whereof were inclined towards the deſtroying ſea, are reduced to leſs than the half, and therefore now appear outwardly inclined towards the land. And thoſe hills that in our days are thus half worn away, will, in the courſe of years, be quite deſtroyed; their roots will become quick ſands; and the ſea continuing its incroachments, and daily gaining on the dry land * will once more by degrees ſwallow

* The learned author of the *Recherches Philoſophiques ſur les Americains*, in Tom. 2. p. 337. finds fault with *Manfredi*, becauſe he aſſerted, that the waters of rhe Adriatick ſea are riſen to a level much higher than the ancient, not through the augmentation of the quantity of water, but through the elevation of the bottom by mud, and other cauſes. He has perhaps ſome reaſon to call the *riſe of the waters* a ſophiſm, when it is only a conſequence of the riſe of the earth in the bottom; and, in fact, if the maſs of water continues equal, we cannot properly ſay, that the water riſes, but rather that the ſuperficies covered by the water grows higher. But it cannot be denied, that he is evidently in the wrong when he affirms "that, in Italy, a "thouſand places are abandoned by the ſea like the part of Ravenna, and that, "perhaps, not one place could be named where the Mediterranean had over-"flowed or ſurmounted the ſhore, which muſt infallibly have happened if *Man-*"*fredi* had reaſoned well." The learned anonymous author thinks it demonſtrated, that the earth carried to the ſea by rivers merits little or no conſideration;

ſwallow up that tract of country, which, perhaps, it has by degrees abandoned and reinundated already, who knows how often

conſideration; and ſeems to have been ſo much prepoſſeſſed by this opinion, that he could not read the diſſertation of the celebrated Bologneſe mathematician *de aucta maris altitudine*, with due attention. *Manfredi* agrees that the maſs of water rather diminiſhes for more then one reaſon, but aſſerts, notwithſtanding, that the level riſes, becauſe the diminution is not in proportion to the augmentation of the bottom by the importation of mud, calculated by him, with great timidity, at five Bologneſe inches in every period of 348 years.

It is certain, that if facts not depending on local cauſes are good proofs, the propoſition of the French author is by no means true. Though the ſea daily retires further from Ravenna, allowing a viſible prolongation of the land produced by the mud of the Po, and ſome other leſſer rivers, it certainly does not retire further from Venice, where, ſince its foundation to our times, there has been often a neceſſity of loſing the uſe of places under ground, and on a level with the ground, to rebuild the ciſterns higher, to riſe the pavement of the ſtreets, and ſquares; on which occaſions we find, in digging, that our forefathers were obliged to make the ſame reparations. It is manifeſt, that all the country lying between the Lagunes, and the Paduan, Vicentine, Treviſan, and Friulan hills, has been, in former times, covered by the ſea, and we remember, to this purpoſe, the fact related by le Clerc, in one of the volumes of his *Bibliotheque*, that in 1720 an anchor was found many feet under ground in the ſea mud in digging the foundations of a building at *Padua*; and a further proof may be deduced from the marine ſtoney bottom which ſerves for baſe to the volcanic Euganean hills, and is diſcovered in deep excavations.

It is my opinion, that, in remote times, the ſea not only waſhed the roots of the above mentioned hills, but even that it extended far beyound them into the Continent: and I am alſo fully convinced, that, for many ages paſt, it has not loſt ground in theſe parts. The cauſeways that maintained the communication between the Cities of ancient Venice, towards *Torcello*, *Altino*, *Jeſolo* and *Eraclea*, are now buried in ſome places, and ſubmerged in others; our dykes, fortified at a vaſt expence by beams and ſtones, are at preſent not ſufficient to defend us againſt the ſea, which too often breaks through them. Some years ago the Government has determined to raiſe mounds of marble ſuperiour to the Roman works now remaining, and deſigned to vie with the Caucaſean wall: the ſea beats againſt theſe, and diſjoins the enormous maſſes; and a time will come when this wonderful work will be overflowed.

often. This kind of prophecy, is not founded on ideal chimeras, but on viſible facts, which correſpond together, and reciprocally

ſlowed. In like manner, ſome iſlands, and large pieces of the continent, about *Grado*, have, within theſe few ages, been covered by the ſea, which every day advances and threatens freſh miſchief; thus alſo the ſea gained ground near *Malamous*, and covered a large tract of inhabited land, the ruins of which may ſtill be ſeen under water in a calm: thus alſo the ancient City of *Conca*, oppoſite to *Rimini*, is covered by the waves, and more than a mile from land; and thus alſo the ſuburbs of *Pola* in Iſtria are ſubmerged, and along the ſhore, at low water the moſaic pavements are diſcovered, as well as at *Sipar* not far from *Porano*, ſeveral palms under water. If the ingenious illuſtrator of the things of America were to make a voyage of obſervation along the coaſts of the Adriatick, he would ſee, that there is no prolongation of land in this part of the Mediterranean, that does not proceed from importations, or other local cauſes; and, where theſe do not operate, the land loſes. As the obſervations made on the Baltick by the learned *Hierna*, *Suedenbergius*, *Kalm*, *Celſius*, *Dalin*, *Linnæus* and *Wallerius*, loſe nothing of their truth when compared with thoſe which others have made on the Adriatick, ſo theſe are not the leſs true for being diametrically oppoſite to thoſe of the North. Whoever, depending on partial obſervations, and led by the ſpirit of ſyſtem, draws general concluſions concerning the receſſion of the ſea from the land, certainly reaſons ill; but it is much worſe to ſet phyſical truths at variance with Religion needleſſly, and to treat the aſſertors of an opinion, whether well or ill founded, as hereticks. The Biſhop of *Abo* and *Menander* have given a ſcandalous example of this, in mixing bad phyſicks with the revealed truths. The fury of thoſe two men, which they found means to communicate to the body of the Swediſh Clergy, went ſo far as to accuſe the celebrated *Dalin* and *Linnæus*, together with the moſt illuſtrious obſervers in the Kingdom, of hereſy before the Diet in 1747, nor was the unfavourable reception they met with ſufficient to appeaſe them.

Perhaps the truth is, that the ſea ſometimes loſes, and ſomtimes gains, not only in different ſituations, but alſo in the ſame in the courſe of years and ages. The daily and occaſional cauſes of thoſe changes are ſometimes plainly ſeen, but oftener remain involved in darkneſs as well as other permament cauſes of the revolutions, and their unknown periods.

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reciprocally enforce one another, from one end of the earth to the other.

Of the ſmall Iſlands adjacent to CHERSO *and* OSERO.

The ſmall iſland, or rock of *Gutim*, which lies a mile to the eaſtward of the coaſt of *Cherſo*, near the hamlet of *Belley*, would not be worth mentioning on account of its extent, which is not half a mile in length, nor for its products, becauſe it is quite deſert and uncultivated. The ſea beats againſt it furiouſly on the north eaſt ſide, and though it is defended by the roughneſs of the marble, yet even that is corroded apace, and the ruins of it are ſeen under the water. The concavities made by the waves are full of lichens, and ſtoney maſſes, which are of a fine pale red colour; and among them are great quantities of *Echini marini*, and generally one ſpecies only of *Bucini*, and two of *Patellæ*. There was, in former times, as the inhabitants of *Cherſo* ſay, a monaſtery of nuns on this iſland, which is altogethe plain, and might be made very uſeful. On one point of it, there are ſtill ſome ruinous walls, but I did not go near them. Inſtead of nuns, it is now inhabited by a great number of rabbits, which find good paſture; the inner part of the iſland producing plenty of graſs. The particularity that diſtinguiſhes *Gutim*, and makes it of importance in the eyes of a naturaliſt, is the foſſil bones found there, in two places above ground. One of theſe is near the ſea; and the other, which we could not find, tho' well known to the fiſhermen and ſhepherds, is in the heart of the iſland.

On the other ſide that is to the weſt of *Cherſo*, and three miles from S. *Martino*, lies the iſland *Levrera*, peopled likewiſe

wiſe by rabbits only; it is plain, and about two miles long. The inhabitants of *Cherſo* uſe to go there a hunting.

Nia, *Onie*, or *Unie*, is an iſland about ſeven miles in length, the ground of which belongs to the biſhop of *Oſero*. It lies to the weſt of *Oſero*, has few inhabitants, and thoſe exceſſively poor. I do not find it named by ancient geographers; in the low ages it is called *Nia*. Its principal product is fire wood, great part of it being woody. It might produce honey and wax in abundance, and cattle likewiſe; but it yields little of any thing, for thoſe reaſons which are well underſtood in our days, eſpecially by thoſe who apply themſelves to the ſtudy of publick economy. The fiſhing round about *Onie* is a conſiderable product; it conſiſts chiefly in tunny, mackrel, and *Sardelle*; but the poor inhabitants have not the means of profiting by it, and ſtrangers come and reap all the advantage under their eyes. We did not land on this iſland.

San Pier de' Nembi, belongs as well as *Onie*, to the biſhoprick. Many rocks are collectively called by this name: but the chief iſlands are only two, and between them lies a large and commodious harbour. The inhabitants have their houſes all near one another, and form a poor village. There is alſo a convent of friars, which probably does not contribute to enrich them. There was, in former times, for the defence of the harbour, a kind of fort, of which ſome ruined parts remain, and a governor ſuited to the importance of the place.

In the ancient records, and inſcriptions of the 14th century, theſe iſlands are called *Nieme*. A ſea chart in my poſſeſſion, which ſeems to have been made about the year 1340, gives them

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them that name. The actual products of the island amount to very little value; though they might be made much more considerable. The rocks of *San Pier de' Nembi*, none of which are above two miles long, occupy about five miles of sea from north to south.

Two small islands situated to the west of *Osero*, which are about seven miles round, go by the name of *Canidole*. The Sclavonian inhabitants of *Cherso* call them great *Stracane* and little *Stracane*. They are divided by a narrow channel of the sea. The people of *Lossin* cultivate a part of them, the soil being very manageable, and without any stones. It looks like the depositions of rivers of a long course, by which I mean a mixture of mud and very minute sand: the waters of the sea have certainly not triturated nor heaped it up in such a manner. This species of light ground is raised above the level of the sea, about twenty-five feet in the highest parts, and lies on a base of marble, analogous to the description which I have given of the lower strata of these parts in the last section. We stopt on one of these islands to dig up the greatest part of the fossil bones with which we returned loaded, and which now are distributed among the best *musæi* in England.

Sanšego is a small island seven or eight miles to the westward of *Lossin picciolo*, fifteen from *Osero*, thirty five from *Cherso*, and little more from the mouth of the *Arsia*, to which it lies opposite. In past ages, there was a monastery on this island, founded by *Pietro*, bishop of *Osero*, about 1070, and some of the ruins still remain. It is much frequented by fishing boats, as being one of the principal places of passage of the Sardines. The bishoprick of *Osero* is also proprietary of the lands of this island.

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The inhabitants are about three hundred, poor and miſerable beyond deſcription. They dwell in wretched cottages on the higheſt part of the iſland: we entered one of them to ſee an ancient inſcription, which the prieſt of the pariſh could not read, as thoſe poor people told us. The cottage was ſo dark at mid-day, that we were obliged to read the inſcription by candle light. There is only one aperture in thoſe cottages, which ſerves for door, window, and outlet for the ſmoke; there are no diviſion in the inſide; not even a floor, excepting what the ordinary ground furniſhes, and it is lower than the outſide. From without, thoſe miſerable habitations do not ſeem intended for animals of our ſpecies; and indeed they look more like the holes of wild beaſts than cottages. The ſoil of *Sanſego* is not unfruitful, though it is as ſandy as that of *Stracane*. It is however little cultivated, becauſe the inhabitants are few, poor, and oppreſſed. They ſow ſome corn, and cultivate the vine; but the nature of the ground does not agree very well with the olive. The baſe of the iſland of *Sanſego*, is the uſual whitiſh marble of thoſe parts; foſſil bones are alſo found there incloſed in their ordinary matrice, and accompanied exactly with the ſame circumſtances as in other places. A hill of ſand, about ſix miles in circuit, is raiſed on that ſtratum, which ſeems to have very little curvature, and forms the iſland. The ſides of this hill are torn away by the rain waters, and precipitate on all ſides into the ſea, becauſe they are not ſuſtained by trees, which are but rare on the iſland. Thoſe rents are alſo very deep, and ruinous, becauſe the ground contains no kind of ſtones, but is compoſed of very minute ſand, and of ſtill more minute and impalpable fluviatile mud. In ſome places, where the rain waters do not tear the ſurface, they are often undermined below, and produce in time deep gulfs. This iſland, of which I do not find

find any particular name determined among the ancient authors, was, however, in ancient times, inhabited by people of ſome conſequence, and perhaps was the villa of ſome rich Roman, ſettled in the colonies on the continent, or in the neighbouring iſlands. Some tables of greek marble, and pieces of ſculpture not contemptible, are ſtill to be ſeen there. The inſcription mentioned above, and which will be inſerted a little farther on, belongs to no ignoble family; nor is there the leaſt ground to imagine that it has been tranſported thither from another place. The poor peaſant, who built the houſe in which it is found, diſcovered it in digging the ground he was preparing for his wretched habitation, and did not even take the trouble to uncover the whole of it.

The ſituation of this iſland, and of the two *Stracane*, the diſtinct appearance of the various ſucceſſive depoſitions diſpoſed in ſtrata, and its ſimilarity to other neighbouring iſlands, ſeem to me to merit the reflection of an obſerver in inveſtigating the origin. It is very remarkble to ſee an iſland, far from any large river, wholly compoſed, from the marble baſe upwards, of very minute fluviatile ſand, and of that kind of ſand which is only proper to rivers of a long courſe. There are actually no ſuch rivers near the coaſt of the *Quarnaro*. It is, however, certain, that, in more diſtant ages, and in circumſtances very different from the preſent, a large river run not far from the place where the ancient and noble caſtle of *Albona* now ſtands, and fell into the ſea ſeveral miles further outward, paſſing, as the Po does at preſent, between low banks formed by its own ſand. Without this, the iſland of *Sanſego*, which lies at a good diſtance from the coaſts of *Iſtria*, and is about two hundred feet in perpendicular height, could not have been formed. I ſhall offer

offer two reaſons to ſupport this opinion. The firſt is, becauſe, in the fluviatile ſand of *Sanſego*, there is no veſtige of marine bodies; and there are always ſome in the ſand of the mouths of rivers. In the ſecond place; it is certainly neceſſary, that the water of the river from whence the iſland was formed by ſucceſſive depoſitions, muſt have run in a channel about two hundred feet higher than the actual level of the ſea. The nice examination of the ſand of *Sanſego*, and the *Stracane*, in which neither ſea ſalt, marine bodies, or fragments of them are found, lays us under an evident neceſſity of paſſing over a great number of ages in thought, to come near the *epocha* of the formation of thoſe ſandy ſtrata. For this reaſon, I am inclined to prefer the ſupputations of thoſe chronologers who have ſtudied to give to the world the greateſt poſſible number of years, with the view of rendering phyſical obſervations more conſiſtent with the interpretations of ſcripture moſt generally received. In our caſe, we muſt either involve ourſelves in inexplicable obſcurity, or carry back our computations to very remote and unknown times, when the preſent iſlands of the *Quarnaro* were conjoined to the neighbouring continent. In conſidering this ſubject attentively, the unprepoſſeſſed geologiſts will naturally think of thoſe ages, when the vaſt provinces, now ſubmerged by the waters of the Mediterranean, introduced through the ſtrait of Gibraltar, were dry land; or perhaps on thoſe ſtill more remote ages, which preceded the irruption of the Indian ocean from the ſtraits of *Babelmandel* to the mountains of *Friuli*, forming that long channel which was afterwards interrupted by the iſthmus of *Suez*. And without doubt, all, or a great part of that bay, in which the iſlands of *Veglia*, *Arbe*, *Pago*, and the larger, as well as the ſmaller *Apſyrtides* now lie, muſt have been a part of the continent, and a high part of it too, long after the two irruptions

irruptions juſt mentioned. It is probable that the river waters firſt tore and diſcompoſed, and afterwards the ſea waters corroded that portion of main land which was united to thoſe iſlands, or rather which was continuous on all ſides excepting the exterior. The baſe, however, of the above mentioned iſlands, as well as that of the neighbouring coaſts, was formed by depoſitions of ſtill more ancient ſeas. The human underſtanding has not the needful data to calculate the thouſands of years, that muſt have elapſed from the time of the induration of the baſe, to that of the depoſitions of which that tract of country was formed, whereof the ſmall ſandy iſlands are only remains; nor is it ſufficiently inſtructed concerning the periodical ſucceſſions of deluges, to comprehend how, and wherefore, the ſea waters returned to deſtroy that which the rivers had fabricated on their ancient foundations.

Of this river, which without doubt run through *Iſtria*, and diſcharged itſelf into the Adriatick ſea, the memory is much better preſerved by the fluviatile ſands of the iſlands, than in the works or fragments of ancient writers: and it is ſo clearly expreſſed, that it ſerves to confirm the various teſtimonies which are found, eſpecially in the Greek authors of the beſt times, and which perhaps were founded on ſome reſidue then remaining, or perhaps only on venerable old tradition. *Scylax Cariandenus*, the moſt ancient of geographers, ſays, in his *Periplus*, that "beyond the *Veneti*, is the nation of the Iſtrians, and the river "*Iſter*, that alſo runs into the black ſea." * And *Scimnus Chius*, whoſe fragments were unjuſtly attributed to *Marcianus Heracleota*; "The *Iſter* deſcends from diſtant weſtern lands, "and

* Μετὰ δὲ ἐνετοὺς ἐστιν ἔθνος Ἴστροι, καὶ ποταμὸς Ἴστρος. οὗτος ὁ ποταμὸς καὶ εἰς τὸν πόντον ἐκβάλλει. *Scylax Cariand. in Periplo. int. Geograph. min. Hudſoni.*

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" and diſcharges itſelf into the black ſea, divided into five " branches. Another branch of it runs into the Adriatick, well " known by the *Celti*." * And here it is to be remarked, that, under the name of *Celti*, the *Japidi* or Iſtrians, were alſo comprehended. † *Pomponius Mela* reckons, among the rivers that fall into the Adriatick, a branch of the Danube, called alſo the *Iſter*. ‡ And in the ſame book, he expreſsly ſays, " *Iſtria* took its " name from the river *Iſter*, a branch of the Danube, which runs " into the Adriatick, oppoſite to the mouths of the Po; and " adds, that the intervenient waters of the ſea are rendered " ſweet by meeting theſe two great rivers." § Pliny abſolutely denies the exiſtence of this river, which certainly had diſappeared many ages before his time, and, with great appearance of reaſon, accuſes *Nepos*, ** an inhabitant of the banks of the Po, who had, in ſome of his works, mentioned this as an actual river. Perhaps the learned naturaliſt had the ſame real reaſon in this particular, as one would have who denied, in our days, the ancient mouth of the *Oxus* or *Gihon*, in the Caſpian ſea, and the commerce that was carried on between the Eaſt Indies and Europe by that means. The Tartars, who have turned the courſe

* ——————— Ὁ Ἴστρος ποταμὸς
Καταῤῥεῖται ἀπὸ τῶν ἑσπερίων τόπων
Τὴν ἐνθόλην πέντε στόμασι ποιούμενος.
Δυσὶ δὲ σχισόμενος καὶ εἰς τὸν Ἀδρίαν ῥέει
Ἀμέλει δ' ἄχρι Κελτικῆς γινώσκεται.
Scym. Ch. inter Geog. min.

† Ἰάπυδες ἔθνος Κελτικὸν πρὸς τῇ Ἰλλυρίᾳ. Διονύσια ἐκκαιδεκάτῳ. *Epitom. Steph. Byzant.*

‡ Pomp. Mela lib. 2. cap. 3. *Ex Danubio, qui jam dictus eſt, Iſter.——per Iſtros Iſter emittitur.*

§ Pomp. Mela lib. 2. cap. 4. *Padus——ſuum etiam in mari alveum ſervat, donec cum ex adverſo littore Hiſtriæ eodem impetu profluens Hiſter amnis excipiat; hac re per ea loca navigantibus qua utrinque amnes eunt inter marinas aquas dulcium hauſtus eſt.*

** Plin. l. 3. c. 18.

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courſe of that large river another way, by altering the circumſtances, have not given a juſt ground to modern writers to accuſe the ancients. *Trogus Pompeius*, according to his compiler Juſtin, takes notice * of an Adriatick branch of the *Iſter*, or of a river communicating with it in the inland country, as a man might be expected to do of a thing hardly ſpoke of in his time, and of which no diſtinct veſtiges were generally ſeen. Among later authors, the old tradition of its exiſtence was almoſt conſtantly placed among the fables. The authority of Pliny, weighty of itſelf, and ſupported by a fact actually true in his time, when no ſuch river was to be ſeen, and the want of exact and minute topographical knowledge of the country, deceived *Strabo* himſelf; † and made *Cluverius* alſo, though a diligent inveſtigator, particularly of the Italian antiquities, join with the common opinion. ‡

And yet Pliny was not ſo demonſtratively convinced of the impoſſibility of the ancient Iſtrian river, as might perhaps appear at firſt ſight. And what ſenſible geologiſt will take upon him poſitively to deny the poſſibility of a thing, that depends on phyſical revolutions, of which we may every day ſee examples? The diſtance of *Iſtria*, not permitting him to examine the fact perſonally on the ſpot, he inclined towards the negative ſide.

* Juſtin. Trogi Pomp. comp. L. XXXI.

† Τινὲς δὲ καὶ τὸν Ἴστρον ἀναπλεῦσαί φασι μέχρι πολλοῦ αὐτῷ περὶ τὸν Ἰάσονα. οἱ δὲ μέχρι τοῦ Ἀδρίου. οἱ μέν κατ' ἄγνοιαν τῶν τοπων. οἱ δὲ καὶ ποταμὸν Ἴστρου, ἐκ τοῦ μεγάλου ἱστρου τὴν ἀρχὴν ἔχοντα ἐκβάλλειν εἰς τὸν Ἀδρίαν φασίν. Strabo. lib. a.

Quidam etiam bonam Hiſtri partem adverſo flumine ſubvectum Jaſonem cum ſuis tradunt: nonnulli uſque in Hadriam, ignoratione ſcilicet locorum decepti, alii etiam Hiſtrum quemdam fluvium ex magno Hiſtro ortum in Hadriam influere aiunt.

‡ V. Phil. Clav. Ital. Ant. *ubi de Hiſtria.*

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If he had been told that the *Tiber*, in diſtant times had its bed many feet higher than the preſent level; and that the veſtiges and proofs are plainly ſeen, on the ſides of *Monte Pincio*, in the great heaps of ſandy *tophus* quite full of impreſſions of the leaves of the alder, willow, reeds and other aquatick plants, or ſuch as grow by the ſides of rivers, he would not have inconſiderately denied this truth. * *Monte Pincio* was too near, and the veſtiges of the waters too viſible; nor would it have ſatisfied that good obſerver to know, that, ever ſince the foundation of Rome, the Tiber had run with very little difference, in the ſame bed, or detained him from going to examine, with his own eyes, the foundations of the propoſition, or from embracing it, after having found them manifeſt. The compariſon of what he has wrote concerning the fiſh *Trichia* in Ariſtotle's words, which I took notice of in page 433, ſhews that he was diſpoſed to entertain a more juſt opinion on this ſubject. Ariſtotle wrote expreſſly, "that this ſpecies of fiſh alone, was always caught by "the fiſhermen in entering the black ſea, but in coming out "never,

* That the rivers have anciently run in much higher places, than they do at preſent, is very manifeſt. The river of the *Val d' Elſa* ran along the plains, and the disjunctions it made now form the hills of *Barberino*, between Florence and Siena; the Paduan *Brenta* once ran upon the plain tops of the hills of the *ſette communi*, which, by a gentle curvature, extended to the ſea; and the Adige left manifeſt ſigns of its paſſage in the Veroneſe hills, now far diſtant from its actual courſe, and where the celebrated Signor *Giovanni Arduino* has made ſeveral excellent obſervations with a philoſophical eye. The *Aſtico*, a dreadful torrent in the Vicentine, has dug out a bed for itſelf in its own ancient depoſitions of gravel; and not far from the village of *Piovene*, on the flanks of the celebrated *Monte Summano*, this excavation is in ſome places above two hundred feet perpendicular, and the correſpondence of the gravelly ſtrata is ſeen on both ſides. Theſe obſervations are leſs or more applicable to all the rivers that take their riſe in the mountains.

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"never, or very rarely, and looked upon as a bad omen;* and "giving the reaſon, he ſays, that it ſwims up the Danube, "againſt the ſtream, till it comes to the diviſion of the river, "where, paſſing from one branch to the other, it deſcends in- "to the Adriatick." Pliny, in ſpeaking of the *Trichia*, does not name Ariſtotle, though he copies his words, altering only thoſe which regard the divergency of the river, to adapt them to the ſtate in which things were in his time. "Of all the "fiſhes that enter the black ſea, the *Trichia* is the only one that "does not return back again. And it is alſo the only one that "enters into the Danube, and ſwims againſt the current, till "it finds the way, by ſubterranean veins, to paſs into the "Adriatick." †. If Pliny was inclined to allow a ſubterraneous communication between the Danube and the Adriatick, without having in perſon examined the country under which that communication probably muſt paſs, that is, the tract of land which forms the narroweſt diſtance from the bed of the river to the ſea ſhore, how much further would he have gone after an accurate examination? He would have found, by being on the ſpot, and anatomizing the bowels of that part of the continent, that *Iſtria* and *Liburnia* are formed by vaſt beds of marble, divid-

* Οἱ δὲ τριχίαι μόνοι μὲν ἰχθύων εἰσπλέοντες μὲν τὸν πόντον ἁλίσκονται, ἐκπλέοντες δὲ οὐχὶ ὁρῶνται· ἀλλὰ ὅταν δέ τις περὶ ἕλζαντιον, οἱ ἁλιεῖς τὰ δίκτυα περικαθαίρουσι, διὰ τὸ μὴ εἰωθέναι ἐκπλεῖν· αἴτιον δέ, ὅτι ἕτοι μόνοι ἀναπλέουσιν εἰς τὸν Ἴστρον, εἶθ', ἢ σχίσεται, καταπλέουσιν εἰς τὸν Ἀδρίαν. *Ariſt. Hiſt. Anim. l.* 8. *c.* 13.

Omnium piſcium ſoli Trichiæ intrantes Pontum capiuntur, exeuntes nunquam conſpiciuntur. Et ſi quis eorum apud Byzantium aliquando capiatur, piſcatores retia luſtrant, quia exire minime conſueverunt. Cauſa eſt quod hi ſoli ſubeunt Hiſtrum, ac mox ubi flumen finditur defluunt in Hadriam.

† *Intrantium Pontum ſoli non remeant trichiæ——Sed hi ſoli Iſtrum amnem ſubeunt; ex eo ſubterraneis ejus venis in Adriaticum mare defluunt; itaque & illinc deſcendentes, nec unquam ſubeuntes e mari viſuntur.* C. Plin. Nat. Hiſt. l. 9. c. 15.

ed horizontally by ſtrata of ochre eaſily diſſolved, and which may be carried away by little water. He would have underſtood, that the ſlow diſſolution and aſportation of the ochre placed between the marble, muſt have thrown the ſtrata out of equilibrium, and cauſed them to ſplit and fall in of themſelves for want of an equal baſe. Nor would he have ſtopt here; but paſſing rapidly in his mind from ſtratum to ſtratum, and from diſſolution to diſſolution, he would have imagined the eroſions, and the thouſands of years neceſſary to produce a whirlpool or gulf, or to ſink a large hollow on a ſudden. The prodigious number of ancient gulfs, and vaſt caverns, which are every where met with in thoſe provinces; the frequent formation of new ones; the inequality of the ground, which bears evident marks of an habitual ſucceſſion of ruins; and the waters, which in large quantities, run to the ſea through thoſe vaſt ſubterranean paſſages, would altogether have made a ſtrong impreſſion on him. Perhaps he alſo would have attributed the deviation of the pretended branch of the river *Iſter* to a combination of ſuch accidents, and, extending his obſervations as far as the *Timavus*, (which he knew, as well as *Poſſidonius*, had in former times had a longer courſe above ground, till deviated by a ſudden gulf, it was forced to run many miles under ground) he would have ſeen, that the analogous ſtructure of the hills of thoſe countries, would naturally produce analogous effects. And I dare ſay that Pliny, as a ſenſible coſmologiſt, would have attributed the total defacement of thoſe provinces, in a great meaſure, to the ſucceſſive conſtancy and variation of the hills. * And if he had added to theſe obſervations, that *Iſtria*, though ſituated at the foot of mountains, has no conſiderable rivers in our

* V. Poſſidon. teſtim. ap. Strab. l. 5. & Plin. l. 2. cap. 103.

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our days; that, in the inland parts of it, immenſe depoſites of fluviatile ſand are found almoſt pulveriſed; and in higher parts there are ſmall ſtones, and exotick pebbles that have been rolled many years before the ſand; that the rivers of that country either iſſue from the bottoms of the hills, almoſt formed; or if, like the *Arſia*, they appear to derive their origin from lakes, theſe have been evidently produced by the ſinking of the marble ſtrata, the correſpondent parts whereof ſtill ſurround them; I ſay, had Pliny compared all theſe circumſtances together, he would not have accuſed the ancient Greek geographers of falſehood, nor thought himſelf under the neceſſity of ſomewhat mutilating the text of Ariſtotle, whoſe poſitive aſſertion he did not chuſe to contradict. And moreover, if he had particularly examined the banks and mouths of the *Arſia*, he would have ſeen, that they are by no means proportioned to ſuch a pitiful ſtream as that river now is; but that its vaſt bed, among hills of marble, muſt have been excavated in former times, by an infinitely ſuperior force, and filled with a much more conſiderable quantity of water.

Appearances, and repeated obſervations, induce me to believe, that the quartzoſe ſands depoſited in various parts of *Iſtria*, and the ſand on the iſland of *Sanſogo*, have both been brought from the ſame country; and that they have been accumulated by the inundations of the ancient river that run in the bed of the *Arſia*, particularly on the right ſide of the river, the ground being too high on the left, along the roots of the hill, which we call *Monte Maggiore*. The ſandy iſlands of the *Quarnaro*, are alſo ſituated on the right ſide of the actual mouths of the *Arſia*, thirty miles in the ſea, and about eight miles from the mountainous iſlands of *Cherſo* and *Oſero*, which were anciently continuations

nuations of the hills of the continent, as the correſpondence of the ſtrata interrupted by the ſea in later times ſhews beyond a doubt.

If phyſical proofs, deduced from a diligent inſpection of the country, add weight to the reſpectable authority of the ancient geographers, and hiſtorical poets, notwithſtanding the diſapprobation of *Strabo*, *Diodorus Siculus*, and other writers of leſſer note; a viſible and palpable monument of the diviſion of the *Iſter*, and of its double mouths, which is found in *Goltzius*, may perhaps afford the laſt degree of force and evidence. * Among the moſt remarkable Greek coins publiſhed by that celebrated antiquary, there is one which bears two heads turned in an oppoſite direction, and on the reverſe it has an eagle and a dolphin with the name of the nation Ικτριηων I have ſeen four of theſe coins, not all done at the ſame time, in the royal muſeum of *Gapadimonte* at Naples.

The firſt who explained this monument, which in the preſent caſe is very valuable, was Gerard *Voſſius*, in his annotations on *Pomponius Mela*, who interpreted the two heads as emblems of the *Iſter*, which diſcharged itſelf in two different ſeas, according to the opinion of the people by whom the coin was ſtruck: *Nonius* alſo, the commentator of *Golzius*, attributed the coin that carries the national name of Ικτριηων to the *Iſtropolitani*; though the name itſelf ſeems rather to denote the Iſtrian Nation, and not to have belonged to the Iſtropolitan community, as, in that caſe, it would have been wrote Ικτροπολιτων. † I do

* Goltzius *in Nummis Græc.* T. 3. Op: Tab. 28. N. VII.

† [Iſtro proxima eſt Iſtropolis.] *Plures Iſtron appellant, & ſic quoque veteres nummi apud Goltzium & alibi, in quibus manifeſte ſcriptum* Ικτριηων *Jonice pro*

I do not think I need to enlarge further, to magnify this new proof of the exiſtence of the Iſtrian river, or to take notice how unreaſonable it would be, and of how bad an example to maintain, even in contradiction to the ancient coins, that the divergency of the Danube has always been fabulous, or *its communication* with ſome river that diſcharged itſelf into the Adriatick. I know very well, that the illuſtrators of the Iſtrian antiquities believed, that this monument ought to be applied in another manner: but it cannot be thought a want of due deference to them, if, uniting this nummary proof to the others drawn from a phyſical obſervation of the province and the neighbouring countries, I endeavour to ſet it in a more intereſting light. The learned eſteemers of ancient coins, who know how much credit is due to them, and how much advantage and perſpicuity the hiſtory of diſtant times has always derived from them, are in ſome meaſure bound to patronize my cauſe.

If the phyſical proofs and conjectures which I have collected, appear as concluſive to others as they do to me, and conſequently place beyond all doubt the courſe of an ancient river, which, paſſing along the bottom of the hills *Ocra* and *Albio*, as ſeems moſt probable, and traverſing *Iſtria*, diſcharged itſelf into

prò Ικτριεων *Ab adverſa parte duo capita adparent ſibi invicem juncta, altero tamen inverſo. Quærunt multi quid ſibi velint adverſa iſta capita. Ego Iſtri fluminis imaginem eſſe puto. Nam cum alia flumina exeant in idem mare, ſolus fere Danubius, vel Iſter, in diverſa maria diverſis & contrariis exire capitibus credebatur: nempe in Pontum Euxinum, & in Adriaticum. Oſtia vero fluminum paſſim capita appellari a Latinis & Græcis licet minus proprie, cum potius fontes adpellari debeant, notiſſimum eſt.* Iſaac. Voſs. Obſerv. in Melam. 38.

into the ſea, in ages not ſo very far from the hiſtorical times, and poſterior to the expanſion of the ancient rivers over the vaſt plains, which now, being interrupted by the vallies, exiſt only in part on the tops of the Morlack and Illyric mountains, the ſmall iſland of *Sanſego* ought henceforth to be eſteemed leſs obſcure and ignoble. Being acknowledged as an incontraſtible monument of the exiſtence of a large ancient river in Iſtria, beſides its merit in the moſt remote hiſtory of the Provinces adjacent to the Adriatick, and particularly of the illuſtrious Cities which boaſt of the Argonauts and Colcheſians as their founders, hitherto inconſiderately confuſed with fables, it will alſo perhaps contribute to raiſe among us a more juſt eſteem for natural hiſtory, which is ſtill deſpiſed and derided by many as an uſeleſs ſtudy, notwithſtanding the improvements of the age, and the example of the other polite nations of Europe.

Ancient Inſcriptions.

Though after the illiterate *Brigii* and *Colcheſi*, who ſettled in the iſlands of *Cherſo* and *Oſero*, it was well known to the Greek navigators, and probably often viſited by the merchants of that Nation, and perhaps inhabited by them, yet no monuments belonging to them now exiſt there. In former times, however, there were ſome, and *Sebaſtian Giuſtiniani*, in an account he gives of Dalmatia and the adjacent iſlands, written about the middle of the 16th century, ſays, that, in his time, there were many Greek and Latin inſcriptions in *Oſero*. Some few of the laſt ſtill remain: but it may be ſuppoſed, that thoſe, who carried away the Greek, will alſo have taken the beſt of the Roman inſcriptions, if the ignorance of the inhabitants has not

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not deſtroyed or buried them. I find in a ſmall collection in proſe and verſe, printed about the end of M D. in praiſe of *Sebaſtiano Quirini*, Count of the iſland, that there had been dug up, near the City of *Oſero*, a very beautiful ſtatue of Greek marble and workmanſhip, which was placed in the court of the *Grimani* palace at S. *Maria Formoſa* in Venice. The author ſays it repreſented *Medea*, and praiſes the workmanſhip greatly. At preſent no ſtatue is to be ſeen in the *Grimani* palace agreeable to the deſcription of that found among the ruins of *Oſero*.

The following are the few inſcriptions that now remain above ground in that iſland, and which *Monſ. Dinarizio*, the late Biſhop of *Oſero*, of pious memory, collected from various parts of the dioceſs, and placed in the Veſcovile palace, to prevent their being ſpoiled, or hid.

I.

. . . . L I C I A E . I N.
. . . . AE. D V L C I S S I . .
ANN1S. X I I. BE..
. . . . F I L. C A S T I S.
. . . . A SIMPLICIA..
. . . . AMANTISSIMA.

This inſcription, which in itſelf is of no importance, merits rather the obſervation of naturaliſts than of antiquaries. It is of greek marble, and remained a long time under the ſea water. The *Foladi*, or *Datteri marini*, had taken poſſeſſion of it, and from thence it is perforated. This is a demonſtrative proof againſt M. de Reaumur, that the *Foladi* do not want inſtruments to perforate the ſtones in which they ſettle, and that it muſt

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often prove a miſtake, to believe they had opened a paſſage into the clay, or mud, before the ſtrata were hardened under the ſea waters. Hence all the deductions of that celebrated academician muſt fall to the ground, not only concerning the wonderful age of the *Foladi*, but alſo concerning the no leſs wonderful ſpeedy induration of the ſubmarine ſtrata. *

II.

TI. CAESERI. AVG. F.
AVGSTO. PON. MAX.
G. AEMILIVS. VAL. F. OCLA.
L. FONTEIVS. Q. F. RVFVS
II VIRI. PORTICVM.
CVRIAM. D. D. FACIVNDVM
CVRAVERE. IDQVE. PROBAV.

This ſtone was found at *Caiſole*, from whence ſeveral others were tranſported to *Oſero*. Perhaps, by diligence, the means might be diſcovered of illuſtrating this monument, as well as

* As this inſcription has ſerved to illuſtrate a point of natural hiſtory, I think I may be permitted to add here another obſervation relative to the *Foladi*, and which I alſo owe to an inſcription found under water; that was, and perhaps ſtill is, at *Torcello*. It is engraved on vulcanic *lavi*, or *granitello* of the Paduan hills. Neither the *Foladi*, nor any other ſpecies of marine creatures had bit or lodged in it. By extending my obſervations in our canals, and in various places about the city, I have found that the *Foladi* never lodges in vulcanic ſtones; ſometimes an accidental inſect is found on it, but never bites. Nor have I hitherto found *Foladi* lodged in vitreſcent ſand ſtones of rough grain. From theſe conſtant obſervations I thought I might conjecture that the *Foladi* hollows and enlarges its habitation in calcareous marble, by means of a corroſive liquid which it can emit at pleaſure, but which has no effect on the vitrifiable ſtones. It is true that the *Foladi* does not love brick, on which acids act powerfully, when not burnt to a total vitreſcence, but it has always a leſſer or greater degree, and therefore perhaps is diſagreeable to the *Foladi*.

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as the place, which, in other times, appears to have been *Caput Inſulæ*. And by comparing circumſtances, the bad orthography of the words CAESERI and AVGSTO might be accounted for. One of the duumvirs is perhaps the ſon of that *Valerius Oclatinus*, of whom we find the tomb was prepared, before he thought of dying, by his daughter *Procilla*, in the following inſcription.

III.

VALERI
O OCLATI
NO AEDII
VIRO QQ VA
LERIA PRO
CILLA F PA
TRI V V F

Valerio Oclatino Ædili Duumviro Quinquennali Valeria Procilla Filia Patri Vivo Vivens fecit. It is obſervable for the V V F, which may, I think, be explained as above.

IV.

IMP. CA.....RI.
AVG.....No
I M.....
TRIBVNI. POT. II. CON
PP. RESPVB.....DD.
XXIII.

Imperatori Cæſari Trajano... (or *Hadriano*)... *Imperatori Tribunitia Poteſtate* III. *Conſuli*... *Patri Patriæ Reſpublica* (the name is wanting, and it is a pity) *Decreto Decurionum* XXIII. It is cut on the ſtump of a column little more than two feet high, and

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about a foot in diameter. It was tranſported from *Caviſole*, or *Caiſole*. Perhaps it was the baſe of an imperial ſtatue, or denoted the dedication of ſome temple, or Baſilick. The number XXIII might cauſe it to be taken for a miliary column placed on the road ſide.

V.

ARTIFICI
BVS. MINER
BABVLLIA
SEX. F. MAXI
A. V. S.

Artificibus Minervis Babullia Sexti Filia Maxima Votum ſolvit. I had read this inſcription the firſt time with the eyes of a mineralogiſt, and my interpretation was ridiculous enough. The ſtone is like the baſe of a ſtatue. It is votive, as every one ſees by the two letters V. S. There was more than one Minerva among the devout ancients, as there was alſo more than one Juno. Spon gives us one in which we read IVNONIBUS SACRUM, &c.

VI.

SEX. IVLI. AGA
THOPI. EPHEBV.
AN. VII
TE. TERRA. OPTESTOR
LEVITER. SUPER. OSSA
QUIESCAS. ET TENE
RAE. ETATI. NE. GRA
VIS. AESSE. VELIS.

This

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This ſtone was found among the ancient ruins of *Oſero*, under ground. It is of the good times, and valuable. The V inſtead of an O in the word EPHEBV may be an error of the engraver: but it perhaps denotes the genitive of Εφηβον pronounced after the Greek manner, Εφηβου.

VII.

C. LVCRETIO
SEX. F. A. IX. H. S.
CAI FILI A TE SECVND

Caio Lucretio Sexti Filio Annorum IX. *Heic Sito Caj Fili a te ſecunder.* It is obſervable for the unuſual prayer.

VIII.

VENERIAE
CN. F. PRIMAE
CRISPVS HILA
RI. SVLP. FECIT.

The ſepulchral inſcription of *Veneria* is indeed of no importance, and the following fragment is no better: but we ought not, on that account, to deny praiſe to him, who took the trouble to preſerve them. It happens frequently, nay almoſt always, that the habitude of preſerving from deſtruction the things of little value, ſaves thoſe of the greateſt importance, which otherwiſe would periſh, if left to barbariſm and ignorance.

IX.

..SIVS. OPI...
..C. AEDIL. R

X.

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X.

P R I M I T I V O
F I L I O
A N N X X V I
M E N S V
P R I S C I L L A
E T
S V C C E S S V S
P A R E N T E S
I N F E L I C I S

The above is in the ſacriſty of the church of S. *Iſidoro* in *Cherſo*.

XI.

SEX. IVLIVS. C. F. NIGER.
AED. IIVIR. V. F. SIBI.
ET. IVL. . . . . ET. FR.
IN. FR. . . . . A.
TERGO. . . . . M.

This ſepulchral monument is half buried in the ſqualid cottage of a poor peaſant, in the beautiful and ill cultivated iſland of *Sanſego*.

A LETTER

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A LETTER TO

JOHN SYMONDS, Esq;

BY WAY OF APPENDIX TO THE ESSAY OF OBSERVATIONS ON THE ISLAND OF *CHERSO* AND *OSERO*.

THE desire of rendering my book of observations on the island of *Cherso* and *Osero*, which is the result of the voyage made last year in your company, and that of the learned Dr. *Cirilli*, less imperfect, had made me project to cross the Adriatick again. Our courteous hosts invited me, and my own health required a change of air; but several causes concurred to detain me. A genteel invitation from your illustrious friend the Bishop of Derry removed all hesitation. I passed the gulf, animated by the desire of residing some days with so learned and amiable a person, and met him at *Pola*. You are already informed, that, on account of some suspicions of the health office, we were obliged to keep forty days at a distance from the island; that the fresh eruption of *Vesuvius*, announced in the news papers, was a temptation we could not resist; and accordingly we passed over from *Rovigno* to *Ancona*, in hopes to get in time to a part of the feast; but at Rome had the unwelcome news that the mountain was become quiet. You may imagine we did not fail

to

to obſerve, on the road from *Ancona* to Rome, all the variety of earth and ſtones, all the veſtiges of ſubverſions, the remarkable waters, and all the remains of architecture, and to take notes on the ſpot. At Rome we ſaw again one of the tables of elaſtick marble belonging to Prince *Borgheſe*, which ſurpriſed all the naturaliſts, who have ſeen it hitherto, and ſeemed inexplicable to the Mecænas of natural hiſtory, Lord *Bute*, who in profound knowledge is equal to any of the moſt experienced profeſſors. * Having ſtaid at Rome long enough to gratify the genius of young Mr. Hervey, equally eager in the ſtudy of architecture, and natural hiſtory; though we ſpared him the taſk of looking at all the trifles and inſignificant fragments uſually impoſed on foreigners

* The elaſtick marble preſerved in the houſe of Prince *Borgheſe* at Rome, is leſs celebrated than it really ought to be. The wonderful properties of this foſſil are unknown to many of the learned men of that capital, and ſeem incredible to foreigners who have not ſeen them with their own eyes. F. *Jacquier*, a celebrated mathematician, has given a deſcription in the literary Gazette of Paris, but the naturaliſts cannot be contented with it. If permiſſion was given to make the requiſite experiments, this curious phenomenon might be better illuſtrated. There are five or ſix tables of that marble; their length is about two feet and a half the breadth about ten inches, and the thickneſs a little leſs than three. They were dug up, as I was told, in the feod of *Mondragone*; the grain is of Carrareſe marble, or perhaps of the fineſt Greek. They ſeem to have ſuffered ſome attack of fire: though the firſt degree of pulverization obſervable in the angles, can, perhaps, ſcarcely be called that of imperfect calcination. They are very dry, do not yield to external impreſſion, reſound to the hammer, like other congenerous marble, and are perhaps ſuſceptible of a poliſh. Being ſet on end, they bend, oſcilitating backward and forward; when laid horizontally, and raiſed at one end, they form a curve, beginning towards the middle; if placed on a table, and a piece of wood or any thing elſe is laid under them, they make a ſalent curve, and touch the table with both ends. Notwithſtanding this flexibility, they are liable to be broken if indiſcreetly handled; and therefore one table only, and that not the beſt, is ſhewn to the curious. Formerly they were all together in the Princeſs' apartment on the ground floor.

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ers who viſit that city; we purſued our journey to Naples, obſerving all the way, and entertained with the acute remarks of our young fellow traveller, who every poſt preſented us with ſome curious ſtones, and gave an account of the differences in the ſubſtance and courſe of the ſtrata. We found that the vulcanic hills, at the foot of which Rome ſtands, and which begin to appear on the road under *Otricoli*, end a few miles beyond *Valletri* near *Caſa-Fondata*; and that they begin again at *Mola di Gaeta*, and extend all the way to Naples, exhibiting a great variety of combinations to the eyes of an obſerver. We paid our viſit to Veſuvius, which was in ſo good a diſpoſition to ſuffer itſelf to be ſeen after the late ſigns of wrath, that we were perfectly ſatisfied with the obſervations we were permitted to make in the great crater, as well as on the brinks of the interior gulf. The thick arſenical, ammoniacal, vitriolick and ſulphureous ſmoke did not ſuffocate us, no more than the *Moſete*, though repeatedly tried. The *Solfatara* appeared to us an object ſtill more intereſting than *Veſuvius*; I was twice in it, the firſt time in company with *Don Guiſeppe Vairo*, a learned profeſſor of chemiſtry, intimately acquainted with the *Solfatara*, and with all its ſecrets. By his aſſiſtance I ſaw more of it in a few hours, than another could do in many days, without ſo courteous and learned a companion. We alſo viſited with due veneration, the environs of *Pozzuolo*, *Ercolani*, and *Pompejano*, and paid our reſpects to the *codices* preſerved at *Portico*, with the reaſonable ſentiment of an earneſt deſire to ſee them opened. In fine we left Naples, after no very long ſtay; enriched with informations and obſervations, which this is not the proper place to give an account of. We croſſed over the Apennines in our way to *Manfredonia*, and had the opportunity of obſerving where the vulcanic matter ends. We did not go to the ſalt mines of *Monte*

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Mileto, which the king keeps guarded, that the inhabitants of the country may not uſe the ſalt; to them probably is owing the ſaltneſs of the wells of *Grotta-Miranda*, and the neighbouring places in the heart of the Apennines. We collected, on the tops of the higheſt hills, fluitated ſtones full of marine bodies. In ſome parts, ſtrata of ſand, and teſtaceous bodies occupy the tops of the hills, as under the city of *Ariana*, where a good collection of petrifactions well expreſſed might eaſily be made. It is alſo curious to ſee, at three miles diſtance from that city, the flutiated pebbles, which being reduced to a very white duſty calx, without the action of fire, continue ſtill wrapt in marine fluviatile mud, indurated by a force very different from vulcanic. The country round *Ariano*, for ten or twelve miles in circuit, is all of this mud and ſea ſand, combined in various ways, and more or leſs containing *teſtacei*. But I perceive I am going too far from my preſent purpoſe. We deſcended through the deſolate plains of *Puglia* to *Manfredonia*; there we embarked, without ſeeing your Prior of *Monte Gargano*. We paſſed through the iſlands of Dalmatia, where we frequently found depoſites of foſſil bones; from thence viſiting the littoral towns, and *Morlacchi* on the continent; ſearching for the veſtiges of ancient rivers, and diſcovering them on the tops of the hills, and in the deepeſt horrour of caverns; meeting, in the interior parts of the country, with many vulcanic hills, and recent marks of earthquakes, and enjoying the moſt cordial hoſpitality, as well among thoſe woods, as in the more poliſhed maritime places. After all this journey, of which, in a ſhort time, you will ſee the particulars and obſervations deſcribed, leaving the continent we paſſed over to *Oſero*, and from thence to *Cherſo*. There I was deprived of his Lordſhip's agreeable company, who, being recalled to your fortunate iſlands by preſſing affairs, purſued his journey through Iſtria,

Iſtria, to avoid a precarious voyage by ſea; but the rare qualities which adorn that noble prelate, remained deeply impreſſed on my mind. I found ſome changes in the city of *Cherſo*. The two fetid pools, which were a great nuiſance, had been filled up through the paternal attention of the nobleman *Giambattiſta Cornaro*, who, a few months ago, was ſent thither from Venice as governor of the iſland, and who has every quality to render himſelf both agreeable and uſeful to any community over which he preſides. He has taken the needful meaſures to have the ſhallow bay of ſea water within the city properly cleared and deepened in the courſe of next winter. Some of the principal inhabitants propoſe to make new plantations, and to aſſign funds for maintaining a publick ſchool. I know not whether our counſels and ſuggeſtions have had any part in theſe improvements, but I confeſs my ſelf-love felt ſome ſecret emotions on ſeeing ſuch good beginnings in that city.

In the foſſil hiſtory I found but little new. There are, in the neighbourhood of *Oſero*, vulcanic ſtones; and that is perhaps, the moſt important article of my further obſervations; becauſe it contributes to confirm the conjecture that ſubterraneous fire has, ſome way, had a part in raiſing all the hills formed under the ancient waters of the ſea; as it is allowed to be the only architect of thoſe that riſe out of the earth, like *Monte Nuovo* of *Pozzuoli*, and the little hills that were thrown up from the roots of *Veſuvius*, in 1760, to the height of a hundred feet. That the fire has acted under ground in ſome other parts of the iſland, without iſſuing through any aparture, or throwing out lava, ſeems to be proved by ſeveral depoſites of *Saldame*, which, as I have alſo had occaſion to obſerve in the vulcanic hills of *Morlacchia*, is uſually nothing elſe, in thoſe parts, but the pulveriza-

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tion of ſand ſtone, produced by the calcination and diſſolution of the tophaceous or tartarous interſtices, that held the particles connected together.

A maſs of earth, of a light blue colour, and which has every appearance of being aluminous, deſerves to be attentively examined. It is on the ſea ſhore below the caſtle of *Lubenize*. I was not able to make any experiment on the ſpot for want of time, and the neceſſary inſtruments. There is not, however, need of much diligence or time to diſcover, that as almoſt all the iſlands of Dalmatia abound in fine marble, ſome pieces of which I have brought along with me, ſo the iſland of *Cherſo* is well ſtored with it. In ſeveral buildings of the city, the *breccia* of the neighbouring hills has been employed, and has an excellent effect, being not inferiour to the moſt valuable African, either in hardneſs or beauty of the colours.

Accident led me to find out that a *literato* of the 16th century, accuſed of having had the weakneſs of denying, or at leaſt diſſembling his native country, actually belongs to *Cherſo*, and ought to be reſtored to that iſland: the people of *Cherſo* have cauſe to be proud of him. *Franceſco Patrizio*, a philoſopher, poet, and philologiſt of great name, who made a great figure in his age, and had views ſuperior to the ſtudies of thoſe times, was born in the iſland of *Cherſo*. A writer on Illyric affairs, whoſe voluminous manuſcript work was courteouſly entruſted to me by Dr. *Antonio Danieli* of *Zara*, well known for his collection of antiquities, ſays, that the obſcurity, or rather ignominy of his birth, obliged that great man to conceal the place of his nativity.*

Theſe

* *Edidit Crexana Civitas ætate noſtra præſtantiſſimum virum politicarum literarum, & Platonicæ doctrinæ in Europa facile Principem, qui dum Romanæ Academiæ a Clemente*

Theſe accuſations do not appear to me to be altogether well founded; and it is even plain, that the little attention uſed by ſome in reading and writing, has made him Saneſe, Farrareſe, Venetian, and I know not what. There are proofs in his own witings that he was related to the noble family *De Petris*, which is diſtinguiſhed among the principal families of the iſland. This man was a prodigy of learning in his times, and would have proved a bright luminary of the revived philoſophy had he been born a little later, or could he have explained himſelf with more liberty, by profeſſing the ſciences in places leſs ſubject to fetters than Ferrara and Rome were. He had thoughts concerning the primitive ſtate of our globe that were not common; and in one of his dialogues intitled *Il Lamberto*, laid down preciſely the ſame theory which your Burnet, a century after, appropriated to himſelf, copying it almoſt word for word. *Patrizio* durſt not expoſe this as his own ſyſtem, as it would have diſpleaſed the ſcholaſtic theologues of thoſe times, who believed that the cataracts of heaven had more water to furniſh towards a deluge than the abyſſes of the earth; and therefore he made it paſs for a coſmological tradition, which had gained credit in *Abyſſinia*, and was found written at large in the annals of *Ethiopia*. Though the theory of the earth imagined by *Patrizio* is liable to many exceptions, yet it cannot be denied that it is ingenious, and it is but juſt that the plagiary biſhop ſhould reſtore the glory to the author.

The

Clemente VIII. præpoſitus omnium in ſe oculos converteret, ibidem diem extremum clauſit, Franciſcus Patritius appellatus; qui tamen maximo Philoſophici animi præjudicio, ex eo, quod humiliſſimo loco apud ſuos naſceretur, natales occultare ſtudens Senenſem ſe civem maxima cordatorum virorum admiratione in fronte lucubrationum ſuarum ſcripſit. Audivi etiam a fide digno viro id non tantum egiſſe occultandæ humilitatis quam ſacrilegorum natalium gratia; fertur enim rurali Sacerdote agri Crexani patre genitus, &c. Ex Dialog. mſſ. de Illyrico, Cæſaribuſque Illyricis, Jo. Tomco Marnavich.

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The thoughts he has left us in the *Lamberto*, concerning the revolutions of our globe, are bold and ingenious; but thoſe are no leſs profound and ſublime, which he has extended in the *Contarino*, in which he gives an account of a long coſmological diſcourſe pretended to have been made by the old Egyptian hermit *Ammun* to the Archbiſhop *Antonio Marcello de Petris*, who met with him on his journey to the holy land. The learned ſolitary ſpoke to him about diſſolutions, and renovations of the world as if by way of prophecy, but in ſuch a manner as notwithſtanding he has wrapt up his conjectures in Platonic darkneſs, and expreſſed his ideas in a language like that of *Triſmegiſtus*, the metaphyſical contemplator diſcovers himſelf as well as the diligent obſerver of natural phenomena. *Patrizio* was really ſuch, as appears by his works, and particularly the *Nuova Filoſofia*. In the twenty-ſeventh book of his *Pancoſmias*, treating of the motions of the ſea, he deſcribes the *Euripus* of *Oſero*, comparing it to that of *Chalcis*, into which Ariſtotle is ſaid to have thrown himſelf, becauſe he could not comprehend the cauſe of the tide.* He made many voyages by ſea, and joining his own obſervations with thoſe of others, formed a ſeries of the known *Euripi*, ſome of which ſuffer no violence of flux and re-flux, and others in various degrees. The *Euripus* of *Chalcis* ſuffers eſtuation ſeven times a day: but near the city of *Oſero* in *Liburnia* there is the narroweſt *Euripus* of all. "In it, ſays our philoſo-"pher, I have ſeen the ſea riſe and fall more than twenty times "a day, and I ſtaid ſeveral days there on purpoſe to obſerve this "phenomenon. It is about fifty paces long, and not ten broad; "its depth is about ſeven feet." He has not perhaps been ſo happy in explaining this curioſity, as he was exact in obſerving it.

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* Pancoſmias lib. 27. *De maris univerſi motibus*. p. 135.

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It is evident that the currents, winds, and flux and re-flux force into the large and deep bays which lie at each end of the *Euripus* a quantity of water disproportionable to the narrowness of the passage. The different combinations of these causes, producing greater or lesser resistances in the outlet, a greater or lesser number of daily estuations follows, as well as the various degrees of their violence. As in his sea voyages he made many and curious observations, so when travelling by land, he did the same relative to fossil history, astronomy, and meteorology; he mentions that he went in person to interrogate some fishermen in the mouths of the Arsia, on whose boat a flying ball of fire had stopt, and broke there without doing any harm. * And in the island of Cyprus he was overtaken, in the plain of *Collopsida*, by a sudden shower of rain, accompanied by a great deal of lightening, which wetting him from head to foot covered him with an infinity of shining points. To this purpose he takes notice of the phosphors of the sea water; and reasons concerning light in a very satisfactory manner. He also discourses sensibly on the real influence of the heavenly bodies on sublunary things, confuting astrology, and treating it with ridicule, though much in vogue in those times. †

I thought it not amiss to enlarge a little in speaking of this man, though without giving an extract of all his works, which would be too tedious, chiefly to renew his memory in the island where he was born, and to restore, to the noble family from which he sprung, the splendor it justly derives from him. ‡ I

I would

* The long observations made on the channel of *Osero*, and this excursion to the mouth of the *Arsia* prove, that *Patrizio* had come to live sometime in his native country after he was far advanced in his studies. Pancosmias, lib 15.

† Pancosm. lib. 21. *An stellæ aliquid agant.*

‡ In the dialogue entitled *il Contarino*, our *Patrizio* says, that the friar *Antonfrancesco Marcello Patrizio*, general of his order, afterwards archbishop of *Patras*, and

would think myſelf happy if the example of ſo learned a countrymen ſhould ſtimulate thoſe iſlanders to the love of ſtudy. The people,

and laſtly biſhop of *Cittanova*, was his grandfather's brother. Now this friar, who was agent for the city of *Cherſo* at Venice, and at whoſe inſtance the ſenate ordered it to be made a walled city, as it is at preſent, is called in the records of his country, and in the ducal letters inſerted therein, F. *Antonio Marcello De Petris*, from whence *Petrizio* and *Patrizio* were derived. *Franceſco* beſtows great elogiums on this biſhop, calling him *a man of profound ſcience, and admirable eloquence*, and *Palladio Foſco*, and *Luca Weddingo* make the ſame honourable mention of him. The biſhop is buried in the church of the conventual friars at *Cherſo*, who have covered his ſepulchral inſcription by the baſis of an altar built a few years ago, without even keeping a copy of it. Thus in general the friars value and reſpect the learning both of the living and the dead. But to return to our *Franceſco Patrizio*, or *de Petris*. Beſides his own teſtimony concerning his country and family, we find him called a noblman of Dalmatia by *Annibale Romei* in his *diſcorſi* printed in 1585 by *Ziletti* Gior. 1. p. 4. *Ciro Spontone*, in his *Bottigaro* Dial. 4. Verona 1589. p. 11. calls him *a native of Oſero in Sclavonia*, which agrees well enough with what others have ſaid, as the family *De Petris* is one of the moſt ancient noble families of *Oſero*.

Franceſco was born in the year 1529. At nine years of age he left the iſland, having been probably ſent to Padua for his education. He lived there eſteemed and loved by ſeveral illuſtrious young men, one of whom was afterwards Pope Gregory XIV. *Agoſtino Valiero*, and *Scipione Gonzaga*, who both became cardinals, were his friends; and cardinal *Girolamo della Rovere* made him a preſent at parting of a beautiful Greek copy of the diſcourſes of *Hermes Tremegiſtus*, which *Patrizio* publiſhed, with a tranſlation and notes, when he was in an advanced age. About 1557 he compoſed a poem entitled *l'Eridano*, but the verſe of thirteen ſyllables, which he made uſe of, was not liked. In 1562 he publiſhed ten dialogues *de arte oratoria*; he went to Cyprus, and ſtaid there ſome time; I know not when he returned to Italy, though probably, by reading his works, the time might be found. He was at Venice in 1568, and returned to Cyprus with the archbiſhop Primate *Filippo Mocanigo*, with whom he alſo came back to Italy; he laments in ſeveral parts of his writings the loſſes he ſuſtained in the revolutions of that kingdom. He went from Genoa to Spain in 1574, and in 1577 was elected profeſſor in the univerſity of *Ferrara*; and the ſame year made ſome phyſical obſervations

people, now full of ſuperſtitious prejudices, would profit by the philoſophy of the few, as is the caſe in polite cities. The common people of the city, and the peaſants of the iſland, and on the contiguous rocks, have all the prejudices, fooliſh credulity, and ſuperſtitions which might be expected among the nations from whence they are deſcended. They believe all the idle ſtories that are told about vampires, called *Bilſi* in their dialect. The

vations in the environs of *Modena*. Ten years after that he was in *Romagna*, and aſſiſted with the duke *Alfonſo* II. *d'Eſte* and cardinal *Lancellotti* at a conference concerning ſome differences that had ariſen between *Bologna* and *Ferrara* about the falling of the *Reno* into the Po. He printed his *Diſcuſſioni Peripatetiche* in 1581, and in 1583 his treatiſe *della Milizia Romana*; and five years after, his *Le Deche Poetiche*. *Teodoro Angelucci* wrote a large volume againſt him in favour of the Ariſtotelics, and *Patrizio* anſwered him in an apology directed to the famous *Ceſare Cremonino* in 1584. The year following he wrote in favour of *Arioſto*, againſt the partiſans of *Taſſo*; and in 1587 he had ſome literary diſputes with the troubleſome pedant *Mazzini*, who, according to the cuſtom of his race, was the firſt to attack him, and without cauſe. Clement VIII. was his great friend; and, when a cardinal, wrote to him frequently. On being made Pope, he immediately called him to Rome, and appointed him profeſſor of Platonick philoſophy in that univerſity. *Patrizio* was eſtabliſhed there in 1592, notwithſtanding the oppoſition of cardinal Bellarmine, a great protector of Ariſtotle, whom our *Patrizio* had treated with little reſpect in his publick lectures at *Ferrara*, and had been taxed with preſumption and innovation on that account. The Scolaſtics would probaly have hindered the publication of his *Nova de Univerſis Philoſophia* by means of the inquiſition, but the duke of *Ferrara*'s protection and favour for the author defended him. The work was printed with ſome annotations and cenſures of a certain friar *Jacopo da Lugo*, inſerted here and there at the end of various diſſertations, and which ought rather to have been placed among the *Epiſtolæ obſcurorum virorum*. In 1594 he publiſhed at Rome two volumes in folio of *Paralleli Militari*, a work much praiſed by Scaliger and Salmaſius, who otherwiſe were very ſparing of their praiſes. Several other works of the Cherſine Philoſopher are found in the libraries, and all of them give proofs of his talents and profound knowledge. He died at Rome in 1597, the 7th of February.

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tales concerning witches and wizards are without number among the low people, who are fully perſuaded that ſeveral of both ſexes are diſperſed among them. But thoſe are prejudices common enough in all countries among the poor ignorant people, and it is only in that claſs that they are regarded at *Cherſo*.

Concerning

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Concerning the Iſland of PAGO.

Of the Situation of PAGO, *with ſome Geographical Remarks.*

THE ancient geographers have left us no deſcription of the iſland of *Pago*; though its form, extent, and rich produce deſerved it. It is not certain that this iſland was meant by Pliny, under the name of *Ciſſa*, or *Giſſa*, as thoſe names might equally well be applied to ſeveral of the neighbouring iſlands, which are now either wholly abandoned, or thinly and wretchedly inhabited. One of the moſt conſiderable of theſe is *Plavnich*, which lies between the iſland of *Veglia* and that of *Cherſo*; *Parvich* between *Viglia* and *Arbe*; *Dolin*, extending in length nearly parallel to *Arbe*; *Scherda*, and *Meon* near *Pago*; and *Puntadura* divided from the continent of Dalmatia by a narrow fordable channel. And this ſuſpicion is of ſo much the more weight, becauſe, on every one of the ſmall iſlands juſt mentioned, there are veſtiges of buildings, inſcriptions, tiles, and hewn ſtones, all which are indications of ancient Roman habitations. Among the iſlands mentioned by Pliny, there is alſo one which he calls *Portunata*, but cannot now be identically aſcertained, though it agrees with *Pago*, as well as any other in the *Quarnaro*. However that may be, as it is very difficult to determine the correſpondence of names without deſcription, I ſhall content my ſelf with giving ſome account of *Pago* as it is in our days. This iſland is extended from north to ſouth over againſt maritime Croatia, or the mountain *Morlacca*. It is about fifty miles long; its breadth is unequal. One particular circumſtance diſtinguiſhes it from all the other iſlands of the Adriatick, and is a large internal ſalt water lake fifteen

miles long from ſouth to north, into which the ſea enters by a canal not above a quarter of a mile broad in ſome places. There are alſo two ſmaller lakes on the iſland; one near *Vlaſſich* abounding in fiſh, particularly eels: and one near the hamlet of *Slabine*.

Of the Climate.

The climate of the iſland of *Pago*, is the the ſame as that of the mountain *Morlacca*, and the ſea coaſt at the bottom of it. The winter is dreadfully cold; and the ſummer ſcorching hot. The ſtormy ſea beats furiouſly againſt the rocky coaſt of the iſland oppoſite to the mountain; and, on that ſide, the heights and ſides of the hills are rendered deſolate by the wind, ſo that neither wood, nor paſture, nor corn lands are found upon them, or only in a few places; but frightful bare rocks, deſert and uninhabitable, cover almoſt the whole. The air is generally darkened, by the ſalt miſt, that is raiſed by the colliſion of the waves, in the narrow channel of *Morlacca*, altogether flanked by ſteep naked rocks. The lake itſelf is not calm in the ſtormy ſeaſon, and far from being a harbour, as might at firſt ſight be ſuppoſed, it is tempeſtuous and impracticable. The inhabitants of the city cannot go out of their houſes during the violence of the wind; and are obliged to have the roofs defended all round by large ſtones. Thoſe who have been there in the winter time, ſpeak of it as a *Siberia* quite covered with ſnow and ice, and always expoſed to the cold north wind; I who was there in the hot ſeaſon, thought it equal to the moſt ſcorching parts of the world. The naked rocks, which not only form the organization, but alſo the ſuperficies of almoſt all the iſland; the narrowneſs of the vallies; the reverberation

of

of the water of the lake, generally quite calm in ſummer, multiply the heat ſo prodigiouſly among thoſe ſtones, that the vines, which are planted all round the lake, ripen the grapes by the beginning of Auguſt; and the few other products, that grow there, anticipate the uſual time of maturity in the ſame manner. The meteors are exceedingly irregular in the ſummer time; ſudden whirlwinds are frequent, and heavy ſhowers of rain; the laſt are hurtful to the inhabitants of one part of the iſland, and favourable to the cultivation of the oppoſite end. I ſhall in the ſequel give ſome account of various ſuperſtitious cuſtoms to which this diverſity of wants has given riſe.

Of the Cultivation, and chief Products of the Iſlands.

The banks of the interior marine lake are almoſt all cultivated with vines, and particularly near the city of *Pago*, and the ſalt pits, which are at the ſouth end of the lake. The abſolute want of wood on the iſland, is the cauſe, that a great part of the vines are left without any ſupport. Some of them, however, are ſupported by canes which are planted for that purpoſe. The part of the iſland under the jurisdiction of *Pago*, produces about forty thouſand barrels of good wine, and about two thouſand of *Rakia*, one year with another. The great quantityof ſage and other odoriferous plants, with which the iſland is covered, furniſhes excellent food for the bees, and the honey forms no inconſiderable branch of trade; it is generally carried to *Fuime*, and ſold again there as the honey of that country. The ſame paſture among thoſe barren rocks maintains a large number of ſheep and goats, and the wool, which is very bad, and cheeſe, make a ſmall article for export. The tunny fiſhing at *Zapka*, near the extremity of the

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the marine lake, brings alſo in no inconſiderable advantage when the paſſage of thoſe fiſhes is plentiful; but that being very precarious, no calculation can be made of it. The northern part of the iſland, called *Novaglia*, which depends on the government of *Arbe*, is well ſupplied with water, and has good paſtures on the low grounds, by which means its black cattle are larger and better than on any of the neighbouring iſlands, or of littoral Dalmatia. The produce of corn and oil is very ſcanty, and not enough to maintain the few inhabitants two months.

The moſt conſiderable product of the iſland is ſalt. In the year 1774, when I was there, they made eight hundred thouſand Venetian *Stavio's*. Part of the ſaltworks belongs to the Government, and the reſt to private proprietors; they are meliorated every year, and, for that end, the publick lends money to thoſe proprietors who want it, and, without that aſſiſtance, could not make the requiſite improvements. The lagune, on which the ſalt works lie, is four miles long, and about half a mile broad. The ſame ſpecies of *Teſtacei* are found here as in the lagunes at Venice.

The iſland, as I already mentioned, has actually neither wood to burn, nor for any other uſe, excepting the northern end called *Punta di Loni*, which is abundantly ſupplied with all ſorts. Among the reſt there are very fine roots, and trunks of old olive trees, which would furniſh excellent materials for the cabinet makers and ſculptors. But that part of the iſland belongs to the community of *Arbe*; and the inhabitants of the City of *Pago*, and the villages depending on it, are obliged to buy wood for their private uſe. There is, on the bank of the

the marine lake, a mine of foſſil coal, which ſtill preſerve the diſtinguiſhable appearance of wood; but it is of ſo bad a quality, that no uſe can be made of it, unleſs in a caſe of the greateſt neceſſity.

Nature of the Soil and the Stones.

The ſoil of the iſland, that is of the land lying on the declivity, and at the bottom of the hills, is very gravelly and light; but on the northern extremity where there are plains, though ſomewhat ſtoney, yet the land is better and ſtronger, and might be cultivated to bear corn of all ſorts. The extent of this kind of land is not large, being only that tract which lies between the extremity of the lake and the *Quarnaro*, having the hills on the right and left ſide.

The hard calcarious ſtone, with fragments of marine bodies, is that which generally predominates on the iſland, and is ordinarily of a whitiſh colour. There are, however, ſome partial maſſes of a light blue colour, and, in ſome places, whole ſtrata almoſt terreous, or perhaps fallen from the ſtate of ſtone in the courſe of ages.

There is alſo a great deal of ſand ſtone quite analogous to that of the iſland of *Veglia* near *Beſca*, and of the iſland of *Arbe* in the adjacencies of the City. The inhabitants prefer this to any other ſtone in the foundations of their buildings under ground, where, as they ſay, it maintains itſelf very long; but if they uſe it in the walls expoſed to the air, it moulders away in a ſhort time, leaving large holes in the wall.

I ſaw

I ſaw no ſtrata of fine marble, though there are maſſes of *breccia* like that of the mountain of *Arbe* and of the hills of *Veglia* and *Cherſo*. The white ſtone of *Punta di Loni* is, however, capable of receiving a poliſh, and when only roughly hewn gives an air of nobility to the buildings which deſerves better architecture than that uſed in thoſe miſerable places.

Of the inhabited Places of the Iſland, hiſtorical Remarks concerning them, and Veſtiges of Antiquity.

Many veſtiges of ancient habitations ſtill remain on the iſland of *Pago*, as well as of walled places, which either have been deſtroyed by the incurſions of enemies, or by time. Hiſtorians ſay, that the iſland was often abandoned by its inhabitants; and indeed it is rather to be wondered at how men ever could reſolve to ſettle in ſo wretched a country. The ſmall number of inhabitants, after ſo many years of peace and tranquillity under the Venetian government, evidently proves how little the iſland is really habitable. The whole number ſcarcely amounts to three thouſand five hundred, which bears no proportion to the extent of ground, if the naked barren hills, that cover almoſt the whole, did not account for it. The greateſt part of this population lives in the City of *Pago*, which is ſaid to contain about three thouſand inhabitants. The ſmall capital of a deſert iſland cannot be expected to offer much to the eyes of the curious: and, beſides, it is of recent foundation, having been built by the Venetians in the year 1468. The plan is well underſtood, and the ſtreets large and ſtraight, which generally is not the caſe in the other Cities of Dalmatia, *Zara* only excepted. The name of *Pago*, is found in older writings, but then it was a village,

village, and ſituated in an unhealthful and inconvenient ſpot, now called *Terra Vecchia*, or the old town.

Kiſſa, *Keſſa*, or *Kuſſa*, was the name of the capital of this iſland in the barbarous times, and probably comes from the corruption of *Ciſſa*, or *Giſſa*. The Venetians took it from the Croats in the end of the 10th century, and demoliſhed it. At that time it appears, that the ſouthern part, where *Pago* now ſtands, was not much inhabited. Caſimir IV. King of Croati made himſelf maſter of it again in 1071, and divided it into two parts; giving the northerly part, with the ruins of *Keſſa*, that were ſtill inhabited, to the City and Church of *Arbe*, and that towards the ſouth, together with the villages of *Pago*, *Vlaſſich*, *Murolano*, &c. to the Biſhop and City of *Nona*. In the beginning of the 12th century, the Doge *Ordelafo Faliero*, having drove the Hungarians out of littoral Dalmatia, retook *Keſſa* likewiſe; and the Doge *Sebaſtiano Ziani*, in 1174, gave it in feod to *Raggiero Moroſini*. At that time the community of *Zara* poſſeſſed the ſoutherly part of the iſland, which had been either ceded voluntarily, or taken by force from the *Noneſi*. The Zaratines having rebelled againſt the Venetians in the beginning of the 13th century, demoliſhed the caſtle of *Keſſa* again, and ruined it in ſuch a manner, that it roſe no more, and the rubbiſh is now hardly diſtinguiſhable. It is probable that the City of *Keſſa*, and afterwards the Caſtle of the ſame name, was built on the ruins of more ancient ſettlements, as in the records ſince the 13th century it is called *Keſſa Veterana*. *Keſſa* being deſtroyed by the incurſions of the Zaratine rebels, the Venetians fortified the village of *Pago*, now called *Terra Vecchia*. Theſe iſlanders continued always faithful to the Re-

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publick; and, on that account, were often expoſed to cruel treatment from their bad neighbours.

In 1358 Lewis King of Hungary reconquered littoral Dalmatia, and the iſlands of the *Quarnaro*; and the inhabitants of *Pago*, falling again under the dominion of Zara, were treated with all the ſeverity of wanton and cruel tyranny. The diſtreſſed iſlanders had recourſe to the King, who, being convinced of the abuſe which the *Zaratines* had made of his donation, ſet *Pago* quite at liberty from their ſlavery; and ſince that time, the portion of the iſland, that was ſubject to Zara, had a government apart, and the other portion having been humanely treated by the *Arbegiani*, remained united to that government.

As the *Pagheſi* had now their particular governor, ſo they were deſirous of having their own Biſhop alſo, that they might have nothing to do with *Zara*, not even in eccleſiaſtical matters; and, by a ſeries of ſingular circumſtances, eight Biſhops were elected by that people from 1393 to 1560, but not one of them were conſecrated; ſome of them died on their journey to Rome, and the others met with unſurmountable difficulties. In the laſt century they attempted again, five or ſix times, to obtain that honour, but always in vain.

The moſt conſpicuous families of the City of *Pago* are the *Caſſich*, *Jadrulei*, *Portada*, *Graſſo*, *&c.* There are two convents of friars, and one of nuns; and ſeveral Churches, all in very bad order, and ill ſerved; at *Terra Vecchia* alſo there is a Convent of Franciſcan monks, a race of men who, under various names and diſguiſes, infeſt every place where credulous ignorance can be perſuaded to maintain the idle and ſuperſtitious.

Out

Out of the ruins of *Kaſſa* aroſe the two hamlets of old and new *Novaglia*, ſituated in the beſt part of the iſland, and moſt convenient for trade with Dalmatia as well as Italy. I ſaw there ſome fragments of Roman inſcriptions of the beſt times, which cannot be ſuſpected to have been tranſported from other places into a Country full of ſtones of its own.

Golane and *Vlaſſich* are alſo poor villiages, and the inhabitants of them, together with thoſe of the two *Novaglia's*, ſcarcely amount to ſix hundred ſouls. The dreſs of the women of *Vlaſſich* is very curious, and more gay then that of the iſlanders of the channel of *Zara*; but I had not time to take a drawing of it.

Cuſtoms and Superſtitions.

The difficulty of acceſs to the City of *Pago*, and the ill accommodation that ſtrangers meet with, make it very little frequented. Hence the inhabitants are as wild and unpoliſhed, as if they lay at the greateſt diſtance from the ſea, and the commerce of polite people. The gentry who pretend to ſhew their manners different from thoſe of the vulgar are truly groteſque figures, both in their dreſs, behaviour, and inſolent pretenſions. The ignorance of the Clergy is incredible; a prieſt of the greateſt conſequence there, and who was thought a man of learning, did not know how *Pago* was called in Latin.

The greateſt part of the people of *Pago* live by working in the ſalt pits, and have a comfortable ſubſiſtence regularly paid by the Government; it is therefore a very important circumſtance for the inhabitants of the City to have a dry ſummer; and hence

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the ignorant vulgar look upon rain as a miſchief brought upon the country by the force of witchcraft. In conſequence of this idea, they elect a friar to exorciſe the meteors, and keep the rain off the iſland. If notwithſtanding the poor friar's endeavours, the ſummer happens to be rainy, he loſes his reputation, and his bread; but, if two or three dry ſeaſons follow ſucceſſively, he meets with great reverence and advantage.

At *Novaglia*, where they have a different intereſt from that of the ſalt pits, they make uſe of as ridiculous means to obtain rain as their neighbours do to have dry weather. There are numberleſs other ſuperſtitious cuſtoms among thoſe poor ignorant iſlanders, which are chiefly cultivated and maintained by the friars for their own intereſt, and ſometimes for more criminal ends; but as little good can be propoſed by expoſing the folly of the people, or the knavery of the monks, I ſhall let them alone as they are.

APPENDIX

APPENDIX

TO THE

OBSERVATIONS ON *CHERSO* AND *OSERO*;

GIVING SOME ACCOUNT OF LITTORAL *CROATIA*, THE ISLANDS OF *PAGO* AND *VEGLIA*, &c.

IN THREE LETTERS FROM THE ABBÉ FORTIS TO JOHN STRANGE, ESQ. HIS BRITANNICK MAJESTY'S MINISTER AT VENICE.

THE unlucky accident that, in 1774, was the cause of my return from Dalmatia much against my will, gave me an opportunity of visiting the islands of the *Quarnaro*, and of making some Observations on the littoral coasts of that gulf, which, though long, and unconnected, I am now to communicate to your Excellency, such as they are.

The littoral parts of the *Quarnaro*, belonging to the Republick of Venice, reach but little beyond *Fianona*, the ancient *Flanona* of the Geographers, which gave the name of *Sinus Flanaticus* to the adjacent sea, and which now is reduced to a miserable condition. The House of Austria is sovereign o the interior coast, from *Berfen* as far as *Lucovo*, which tract of country is called *Littoral Croazia*. The sea, that baths this coast, is called the channel of *Morlacca*, and takes the denomination from the mountains that rise above it. This channel is exceedingly tempestuous, through the violence of the boreal winds, which often, on a sudden, put it in dreadful agitation, raising the

the waves to a terrible height, and darkening the air by the mist of the sea water elevated and dispersed, in minute particles, by the repercussion of the many rocks and craggy islands, which obstruct and embarrass the channel. Three principal Cities are situated on that rough coast, besides many places of less importance, in each of which a military Officer presides for the administration of justice. The first of these Cities, within the channel, is *Fiume*; in former times called *S. Vito*, and takes its name from a small river that rises under the mountain not far distant, and falls into the sea, where it forms the harbour. The number of inhabitants in this City is from fifteen to sixteen thousand. The suburbs are large, and well built; and the houses are furnished in a good taste, which could hardly be expected in so detached and unpleasant a situation. The trade of *Fiume* is considerable, and it is the staple for the commodities of the *Banato* of *Temeswar*. It has manufactures of linnen, glass &c. and large works for refining sugar. The natural language of the country is the Croatian; but all the genteel people of both sexes speak good Italian, and imitate the Tuscan manner, for which they are certainly much more to be commended then we who mutilate our beautiful language, and ridicule any one who endeavours to speak it well, if not born in Tuscany. The manners of the Fiumans are mild, and their society chearful, though tempered with moderation. Learning and the Sciences are more cultivated there than in any of the neighbouring towns on that coast; and the inhabitants of the Venetian islands, who chuse to give their children a good education, send them to the publick schools erected and maintained at *Fiume* by the munificence of the Sovereign. I cannot positively determine if the ancient *Tarsatica* stood on the spot which the City of *Fiume* now occupies; because I saw no vestiges

of

of good antiquity there, and could not learn whether the ancient arch ſtill exiſted, which I found indicated in the MSS. of the late General Count *Marſigli*, which are preſerved at Bologna in the library *dell Iſtituto* founded by him.

The contiguous village, on the left ſide of the river, retains ſtill the name of *Terſatz*, as well as the hill that ſtands immediately above it, to the top of which you aſcend by 414 very irregular ſteps. This hill is revered in thoſe parts, on account of the tradition, believed by the devout Croats, Iſtrians, and neighbouring iſlanders, that the Holy Houſe was ſet down there by the Angels on its being tranſported from Bethlem, and that it remained on the top of that hill three years and ſeven months, before it proceded on its voyage to *Loretto*. Before I went to *Fiume*, I read a curious book which I happened to find at *Cherſo*, intitled *Hiſtoricus progreſſus Mariani triumphi, &c.* wrote by Father *Paſconi*, a Franciſcan friar. He begins the 4th chapter of his little work by a recital of all the ſigns of peculiar favour ſhewn by God to the mountains in preference to the plains. This is a chapter of great conſolation to a naturaliſt. Lot ſaved himſelf from the fire of Sodom on a mountain. God appeared to Moſes on Horeb; and gave him the Law on Sinai: Jeſus prayed on the top of a mountain; His transfiguration happened on another; He dined on a third; He begun the Paſſion on mount Olivet; and finiſhed it on Golgotha. The Holy Virgin had alſo the ſame partiality; *In montana perrexit*; ſhe favoured the Carmelites, who built a little chapel in honour of her on mount Carmel, after her aſſumption, &c. All theſe are highly honoured mountains no doubt; but that of *Terſatz* is the nobleſt of them all, "having "been choſen and predeſtinated, by the ineffable Divine Provi-

"dence,

"dence, to bear upon its top, for the ſpace of three years and "ſeven months, the moſt ſacred houſe in which the Word "was made fleſh, and which was reſcued from the hands of "the infidels and tranſported to *Terſatz*." In our days this legend is not believed, nor maintained even at Rome; but the Croats are two hundred years behind us in theſe matters. In the ſame book are recorded many miracles wrought at *Terſatz*; though after all, the departure of the Houſe does not look like a token of love. The author never forgets to take notice, after every miracle, of the gratitude of the faithful to the Church of *Terſatz*, which is officiated by friars of his order. It is uſual enough for the devotees of that neighbourhood to make vows of ſtaying a whole day in the Church of the *Madonna* of Terſatz, and they even dine there; nay the ſimple inhabitants of both ſexes ſometimes vow to paſs ſix or eight nights in the Church; a practice truly ſcandalous, and unworthy of the reſpect due to places ſet apart for publick worſhip. Among other curioſities, which the friars on the top of the hill ſhow with bold impoſture, is a pretended notorial act of the arrival, and departure of the holy houſe, and a little bell, which the above mentioned writer ſays, *ad coercendas æreas tempeſtates, experientia teſte, mirum in modum conducit*. The architecture of the Church of *Terſatz* is quite vulgar, neither has it any good ſculpture or painting. The ſtone, of which the hill is compoſed, is of the ordinary marble that forms the organization of the Iſtrian, and littoral Dalmatian mountains. Five miles to the eaſtward of *Fiume* lies *Porte Re*, a large ſea lake, ſurrounded by rocky mountains, and defended from the winds, but ſubject to a double inconvenience for ſhipping; the entrance being very difficult in the ſix winter months, and the egreſs not much eaſier in the ſummer. The

Emperor

Emperor Charles VI. ſpent immenſe ſums in fortifying and beautifying *Porto Re*; but the event proved that he had been ill adviſed. The lake is oblong; and at the two extremities are two Caſtles, the one called *Buccaria*, and the other *Buccarizza*, where they make a vaſt quantity of pipe ſtaves, and carry on no inconſiderable trade in that article, as almoſt all the places on the Adriatick are furniſhed from thence. Further up the channel, between the iſland of *Veglia* and the Continent, which is ſcarcely a quarter of a mile broad, and, in the narroweſt part, perhaps not half ſo much, lies the little iſland of *S. Marco*, and the ſmall rock called *Maltempo*, where formerly there was a fort belonging to the Venetians, who ſtill continue to pay a titular Governor, though the fort has lain in ruins many years. The Auſtrian coaſt thereabouts is ill peopled, and, indeed, ſcarcely habitable, on account of the aſperity and naked barrenneſs of the mountain. The caſtle of *Novi* is however of ſome conſequence; it lies between *Fiume* and *Segna*, and the Biſhop of the laſt mentioned place, a hoſpitable and polite Prelate, reſides almoſt conſtantly there. *Segna*, a City but too famous in the hiſtory of the Republick of Venice, which was obliged to make formal war againſt it, and ſuffered cruel loſſes in its maritime ſtates of Iſtria and Dalmatia, for a very long time, without being able to put a ſtop to them, was an object of curioſity for a Venetian traveller. I was deſirous of knowing on the ſpot the deſcendants of thoſe fierce *Uſcocchi*, who where equally admired for their courage, and deteſted for their cruelty. *Minuccio Minucci* wrote a hiſtory of them; and the celebrated *F. Paolo Sarpi* did the ſame ſome years after. I could have wiſhed alſo to have ſeen their hiſtory written by one of themſeves; but the *Uſcocchi* fought valiantly, and attended to the ſale of their prizes

and booty, not to writing hiſtories. The City of *Segna* is ill built, worſe paved, and weakly fortified. Is lies on the brink of the ſea, on a foundation of concreted gravel, at the mouth of a very narrow valley ſurrounded by horrid marble hills. The ground, at preſent occupied by *Segna*, ſhews manifeſtly that its formation is of no old date, and the torrent, that ſometimes inundates and threatens ruin to the City, through the middle of which it runs into the ſea, bringing down with it gravel of the ſame kind as that juſt mentioned, and ſometimes ſcattering it over the contiguous cultivated fields, give ſufficient reaſon to ſuppoſe, that the prudent ancients never planted a Colony in ſuch a diſmal ſituation. It is probable that *Senia* ſtood almoſt three miles further up the valley, where there are ſtill the veſtiges of ancient habitations, and monuments of the funeral ſuperſtition of the Gentiles. The ſea, in all appearance, covered the bottom of the valley, as far up as the City, which ſtood on the ſide of the hill, and formed a tolerable good harbour. Afterwards, the woods being extirpated to make room for cultivation, the violence of the eventual waters naturally augmented, and falling down the ſides of the craggy naked marble mountains, broke off, and tumbled down ſuch a quantity of ſtones, as was ſufficient to fill up the narrow bay, and alſo to form a kind of headland that juts out beyond the foot of the hills. Beſides, the City of *Segna* had no walls before the 15th century, which is a further confirmation that it does not ſtand where the ancient *Senia* did. The wind coming from the bare mountains blow ſo furiouſly in that narrow hollow, that ſometimes in winter one cannot go out of doors without danger, and without the City it is much worſe. It happens frequently that children and weak people walking not only in the market place, where indeed no

prudent

prudent perſon ventures at ſuch times, but alſo through narrow winding lanes, are lifted up from the ground and daſhed againſt the walls; and when indiſpenſable neceſſity obliges one to go to the baſon where the ſhipping lies, though creeping on hands and feet, he is ſometimes whirled about like a ſtraw by the impetuoſity of the wind. Horſes loaded with ſalt are frequently thrown down in the market place of Segna; and the roofs of the houſes, though covered with very heavy ſtones, are carried away. The ſhips belonging to, or trading with *Segna*, endeavour to take refuge in the ports of the iſland of *Arbe*, before the winter ſtorms comes on, but when any happen to be in the harbour in theſe hurricanes, they run the greateſt riſk of being loſt, and never eſcape without damage, as the ſeamen can be of no aſſiſtance, and are forced to keep under deck. In ſuch circumſtances, the proprietors of ſhips give thirty and ſometimes forty ſequins to the poor mariners of the place to go and make faſt a rope at the riſk of their life. The ſea in the channel of the mouth of *Segna* oppoſite to the valley, is hardly ever calm. Yet notwithſtanding all theſe diſaſters, the inhabitants of *Segna*, in the beginning of this age, had fifty merchant ſhips at ſea; they were rich by a free commerce, exporting the corn, wool, wax, honey, tar, and iron of the Turkiſh ſtate, on which they border; and the timber they cut freely in the vaſt ancient foreſt of *Velebich*; and they imported, beſides many other articles of merchandiſe, ſalt, oil, and wine to ſupply the inward provinces. But the many loſſes of ſhipping, and the exceſſive charges they were often obliged to be at, on account of their inconvenient ſituation, diſconcerted and diſcouraged their navigation; and, at preſent, *Segna* has but a very ſmall number of ſhips belonging to it. Another fatal blow was given to

that City by the regulation made by the Court of Vienna in 1741, by which it was deprived of ſixty thouſand florins a year in money, and forty thouſand ells of cloth, and twenty thouſand meaſures of grain, which the Emperor gave yearly to the inhabitants of *Segna*, as being a warlike people, and a bulwark againſt the Turks on that ſide. In reality, after the Auſtrians took the County of *Lika*, from the Turks, and formed all the inhabitants into Militia, *Segna* is become a place of no importance. The laſt, and perhaps the greateſt misfortune of the Segnans, were the publick farms, introduced, not long ſince, for the benefit of the Imperial Treaſury, which obſtruct both the active and paſſive commerce. Theſe farms are extended not only to wood for daily uſe, but even to firewood. The military government of *Lika* always oppoſes the commercial views of *Segna*, and even diſtreſſes it in many reſpects, particularly by hindering the tranſportation of victuals from the back Country. The ſtoney lands about *Segna* ſcarcely produce, with much labour, ſufficient proviſion for the City two months of the year; and there is ſo great ſcarcity of water, that none good, or fit to drink, is to be found nearer than the ſpring of *Kraglieviza* twelve miles from the City, all in the neighbourhood being brackiſh and unwholeſome.

The City of *Segna* is now but thinly peopled, the number of its inhabitants not amounting to ſeven thouſand; yet notwithſtanding that, and all its other diſadvantages, the people have a politeneſs of manners that is not to be met with in any other place of the Auſtrian coaſt, nor even among the Venetian ſubjects of thoſe parts. The real character of the Segnans is, however, ſuſpected to reſemble that of their forefathers in more than

than one bad quality. The Clergy there in general give no good example to the people, though it muſt be confeſſed ſome of them are men of probity and learning. The ſtory of their Biſhop *Chiolich* does them great diſhonour. That prelate was learned, lively, hoſpitable, and in credit at court; he was a native of *Segna*, but well educated. In the courſe of his duty as Biſhop, he repeatedly admoniſhed an Eccleſiaſtick, who lived publickly in concubinage; this man was powerful. The Biſhop, at the age of ſeventy was accuſed of whoredom, magick and hereſy. The Court of Vienna abandoned him to Rome; Rome put an end to his life, and cauſe, no body knows how; and his calumniaters triumphed. This detail of this affair is ſhocking. The people of *Segnia* are ſuperſtitious, and at the ſame time debauched. Even the richeſt of them are ſlaves to the friars, and have their chambers furniſhed with that paper trumpery which the Generals and Provincials of the regular Clergy diſtribute to their devotees, entitling them to the ſame rights in Paradiſe which their cloiſtered brethren have. In conſequence of this monaſtick influence, learning flouriſhes not at *Segna*. The women of this City are thought rather too much inclined to gallantry; they have an eaſy air, that does not ſeem Croatian. Hence amorous adventures are frequent, and ſometimes attended with diſagreeable conſequences. The Biſhop, and the ſuperiors of Convents, who formed a Court of juſtice to which thoſe matters devolved, made a decree, a few years ago, that if an unmarried woman has a child by her lover, ſhe cannot ſue him before the judge, either for marriage or fortune. From this cruel decree a worſe corruption of morals is derived, and many unhappy young women are every year ſacrificed to infamy, without remedy; an inhumane and ſcandalous babarity. Though the principal

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principal families of *Segna* are deſcended from the *Uſcocchi*, who were actually pirates, yet they ſtand much on the punctilio of nobility. An apothecary, who had the vanity to put the article *De* before his ſurname in a certain inſcription, was acuſed *de crimine falſi*, and it coſt him five hundred florins to defend himſelf, beſides the loſs of the *De*, his claim to nobility.

Among the cuſtoms of the Segnans (which are a mixture of Morlacco, German, and Italian) one is ſomewhat ſingular, relative to the dead. All the relations and friends of the family go to kiſs the corpſe, by way of taking leave, before burial. Each of them uncovers the face, over which a handkerchief is ſpread, more or leſs rich, according to the family; having kiſsed the dead perſon, every one throws another handkerchief over the face; all which remain to the heirs, and ſometimes there are twenty, thirty, and more at this ceremony. Some throw all theſe handkerchiefs into the grave with the corpſe; and this, in former times, was the general cuſtom; but then they were rich. This ſeems to have been brought into uſe as a ſubſtitute for the ancient *vaſi lachrimatorii*. There is weeping and howling for the dead according to ancient cuſtom; but if the heirs weep more than with us, the prieſts have much more cauſe to laugh than ours. The burial of a noble perſon ruins the family. Notwithſtanding the City is impoverſhed, this extravagance continues; the burial of a perſon of any faſhion coſts at leaſt two hundred Ducats, which is a great deal for a ſmall poor town.

The Church of *Segna* is officiated partly in Glagolitic Illyrian, and partly in Latin. In the 16th century there was a Glagolitic printing

printing preſs at at *Segna:* but after that time the Venetians burnt the place, put the inhabitants to death, or made them fly elſewhere, and every thing was loſt. I could not find a ſingle book printed there; nor indeed did I meet with any perſon who knew there ever had been a printing houſe. There is a curious original manuſcript preſerved at *Segna* concerning the leagues of the *Knezovi* of the mountain, or the Morlacchi Chiefs, or Counts, with their neighbours the Segnans againſt the Venetians. The inhabitants of the mountain now a days are very different from what they were then. They call themſelves *Bunievci,* becauſe they came from the territory of *Buniar* in *Boſſina.* They are ſo oppreſſed and ill treated, that they are often forced to fly from home to get a living any where. It has always been the fate of this Coaſt to be ſubjected to a heavy yoke; and the inhabitants have frequently emigrated out of deſpair. In the time of Maximilian II. many of them removed into Hungary, where their deſcendants ſtill live; and many families alſo went to ſettle in *Abbruzzo,* about the mountain of *Majella,* who ſtill maintain themſelves there in a good condition. Theſe emigrations opened to the Auſtrians the conqueſt of *Lika* not an age ago. That Bugnevaz reckons himſelf happy, who has a proviſion of potatoes to feed on, and who does not ſee his own oxen fall down, through fatigue and want of food, in the publick ſervice. But I ſhall, in another letter, ſpeak more at large of the condition of this wretched country; and ſhall conclude this by aſſuring your Excellency, that I ſaw, in the ſtreets of *Segna,* a woman actually become frantick through hunger, having had no relief the whole day; and I underſtood, that theſe poor mountaineers are reduced, almoſt every winter, to grind the tops of wild *cardi,* by them called *bumbreci,* and

mixing

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mixing it with bran, or bad rye meal, make a bitter bread, to ſupport their miſerable life.

LETTER II.

Of the Littoral Part of the Mountain MORLACCA, *of* LIKA, *and the Iſland of* PAGO.

THE coaſt of the mountain *Morlacca*, from Segna to the Auſtrian confine, near *Lucovo*, and further inward, in the channel of *Obroazzo*, as far as the mouth of the river *Zermagna*, the *Tedanius* of the ancients, is a tract of country for the moſt part rough, craggy, woody, and incapable of cultivation; inhabited by poor people, who almoſt all lead a paſtoral life. In ancient times, there were ſeveral cities mentioned by geographers; and Pliny in particular takes notice of *Joſpica* or *Lopſica*, *Orthepula*, and *Vegium*. In our times, all that coaſt is very thinly inhabited, and the places hardly deſerve to be mentioned, *Carlobago* alone excepted. *S. Giorgio*, *Lucovaz*, and *Jablanaz*, are miſerable hamlets, where, in times paſt, the facility of trading in timber brought ſeveral families that now languiſh in miſery and oppreſſion, ſince the court of Vienna has deprived them of that means of ſubſiſtence. The few ſtoney fields that are cultivated near the habitations, hardly yield double the ſeed. Yet, at Jablanaz, I ſaw good grapes and figs, and a ſpecimen of very fine ſaffron, belonging to the *Signori Streglianazich*, an ancient and noble family of the *Uſcocchi*, who, having loſt the old warlike fierceneſs, preſerves the ſentiments of cordial hoſpitality. *Jablanaz* has a very ſmall harbour, and can only contain a few barks of little burden; in the middle times it was fortified with lateral towers.

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towers. The hill above *Jablanaz* is of hard limeſtone; there is alſo ſome marble of a pale red, and *breccia*, that, near the ſea, is ſpungy; but compact, where the ſalt water does not reach. The *Bunievei*, or Catholick Morlacchi of theſe parts, uſe to throw a great quantity of honey into the coffins of their dead. The ſpirit of farming is ſo well eſtabliſhed at Vienna, that, for the annual contribution of four florins, the commanding officer at *Jablanaz* has an excluſive right of hunting in all that diſtrict, which is about forty miles round. The ſame officer adminiſters juſtice, though by no means learned in the law, and hence the law ſuits are decided, and delinquents are puniſhed in a very ſummary and military way.

Carlobago is a town that contains not above a thouſand inhabitants, without walls or fortifications, excepting an inſignificant ſquare tower. Notwithſtanding the Auſtrian government gives it the title of city. It is ſituated on the ſea ſide, at the foot of a very craggy naked mountain, and oppoſite to the iſland of *Pago*, which is alſo on that ſide, rocky, without harbours, barren, and quite bare of trees or graſs. The breadth of the channel is not above two miles, yet it is ſometimes impaſſable for ſeveral days ſucceſſively, on account of the violence of the wind. In former times, there was a caſtle called *Scriſſa*, where *Carlobago* now ſtands; it belonged to the *Torquati*, Counts of *Corbavia*, who kept a Viſcount in it; and when that family was extinct, it became one of the ſtrong places of the *Uſcocchi*, and was in 1616 burnt, and demoliſhed from the foundations, by the Venetians, who did not care to keep poſſeſſion of that horrid country to which nature has denied even water to drink. Yet in ſpite of the diſadvantages of ſituation, the ruins of *Scriſſa* aroſe again, being found the moſt convenient place to export the com-

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modities of *Lika*, which lies directly on the other ſide of the mountain *Morlacca*, forming a part of Mediterranean Croatia. From the beginning of this century till of late, *Carlobago* carried on no inconſiderable trade: but the diſſentions between the military and commercial intereſt, the firſt of which ſeems now in greater favour at the court of Vienna than the ſecond, which, however, triumphed under the laſt Emperor, have reduced the country, as well as all the reſt of the Auſtrian coaſt, to a ſtate of increaſing miſery. The trade of the Carlobagians conſiſts chiefly in wood. They have not a bit of ground fit for vines or corn; their territory is altogether ſtoney; and beſides, the rigid temperature of the air renders it unfit for cultivation. In conſequence of theſe natural diſadvantages, they are obliged to bring every thing they want from other parts. Their wine and oil are brought from Dalmatia, and the Venetian iſlands; they ought to have their corn from the internal parts of the country, but the military government of *Lika* ſeems to make a maxim of ſtarving them. The preſent Empreſs Queen cauſed a road to be made from *Carlobago* to *Lika*, but it was exceedingly ill executed, and is very different from the other Auſtrian roads. It is impracticable for carriages, and bad enough on horſeback, amidſt dreadful rocks, and thick woods.

The character of the Carlobagians ſeems much to reſemble that of their progenitors the *Uſcocchi*; but not being able to exerciſe piracy freely, they rob and ſteal every thing they can, wherever they come. Notwithſtanding their poverty, both men and women have ſuch an averſion to dependance, that no ſervants can be found there; and rather than eat the bread of others, they content themſelves to carry to *Goſpich* in *Lika*, fruit, fiſh, and other ſmall things, which they buy on the coaſt, or the neighbouring

bouring iſlands, and to live on the ſmall profit they can make. The people have all the Sclavonian ſuperſtitions, as well as the German, and a convent of fat Capuchins, planted on the leaſt bad ſpot near the town, contributes to maintain and multiply them. The prieſts, for example, go about at the feſtival of Epiphany, to bleſs the houſes, and write on all the doors of the chambers, the current year, and the initial letters of the names of the three wiſe men of the Eaſt, thus, 17GMB76; to which letters they aſcribe many virtues. The writing is made with chalk, and the inhabitants are careful not to efface it, till the time of renewing it returns. The men of *Carlobago* wear the Hungarian dreſs, and the women dreſs like thoſe of *Segna*.

I did not proceed far enough along this coaſt to be able to diſcover veſtiges (if there are any) of the above mentioned ancient cities of *Japidia*, and therefore can ſay nothing about them. Neither did I viſit the internal parts of *Lika*; but I can add ſomething relative to its phyſical and political conſtitution, by information from credible perſons.

That ſmall province ſituated among the mountains, has never been examined by any naturaliſt or antiquary; yet, by what I could underſtand, both would find matter for their reſpective obſervation. The whole county is ſurrounded by very high mountains, whereof a diramation, called *Sridyna gorra*, ſeparates it from *Gorhavia*. On the north, it borders with part of Turkey, on the eaſt, with Venetian *Morlacchia*, and is ſeparated from the ſea by the *Bebian Alps*, called *Velebich*, by the people of the country. I am inclined to believe, that the low part of the great valley of *Lika*, reſembles the diſtrict of *Knin*, which

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is ſcattered with little vulcanic hills and eminences. But I can only give this as my opinion, founded on the reports of people not ſufficient judges of the difference between one hill and another. The river that traverſes *Lika*, bears the name of the province, and produces excellent trouts. It is not navigable, on account of the many precipices in it. It loſes itſelf in a great whirlpool at *Koſſinie*, and runs into the ſea from under the littoral Bebian Alps. All the other ſmaller ſtreams of thoſe parts do the ſame; and hence it happens, that large freſh water ſubmarine ſprings are frequently met with along the coaſt, to which the fiſhes reſort in prodigious numbers. One of theſe ſprings is ſeen near *S. Georgio*, one in the harbour of *Carlobago*, one near *Starigrad*, &c. In like manner the ſmall river anciently called *Zlatieza* by the inhabitants, which now goes by the name of the valley *Korenitza*, in Corbavia, iſſues out of one hill, and, after a courſe of five or ſix miles, loſes itſelf under another. In the valley of *Korenitza* are ſeen the ruins of an ancient city, from which *Bela* IV. fled, when purſued by the Tartars. In the two counties of *Lika* and *Corbavia*, there ſtill remain diſtinguiſhable veſtiges of forty-eight walled places, the greateſt part of which probably belonged to petty lords of the low times: and there is alſo to be ſeen ſome grand remains of a Roman way, which, croſſing over theſe provinces, led to *Salona*. Near *Peruſſich* the road is quite entire, and there are alſo ſome inſcriptions; the place is called *Quarte*. No doubt there are alſo veſtiges of the ancient mines, as there is a place, near the Turkiſh confines, that ſtill goes by the name of *Rudarnizza*, which ſignifies "*the country of mines.*" This conjecture becomes more probable, ſince we know, that, near the triple confine between the Turks, Auſtrians and Venetians, there certainly were metal-

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lick veins formerly. The Likans pretend, that are there alſo mines at *Ternovaez*; but they know not of what metal.

The air of *Lika* is exceſſively cold; the ſnow remains almoſt every where till the month of June, and in ſome of the deep hollows, where the rays of the ſun do not reach, it never melts. Thunder and lightning are very frequent even in winter; but the ſummer hail ſeldom hurts thoſe parts being moſtly woody. The ſoil is light and weak; the corn ſeldom comes to its full maturity, and renders a very ſmall increaſe, unleſs when left fallow for ſome years, and well manured. In *Corbavia*, wheat and all other kinds of grain anſwer much better. The Likans generally ſow millet, barley and oats, and rarely uſe any other grain. Their agriculture is quite barbarous; they manure their corn ground, by keeping their cattle on it in the night, and when they think one field ſufficiently manured, they move them to another. They plow their land extremely ill, and are as ignorant and careleſs in every other part of huſbandry. The Corbavians are better huſbandmen. They have two kinds of wheat; the one called *Ozimnicza*, which they ſow in autumn, and the other, called *Jarieza*, they ſow in March and April, and it ripens as ſoon as the other. They ſay, if theſe two ſorts of wheat were ſown out of their proper ſeaſon, they would not grow. The climate both of *Lika* and *Corbavia* is too rigid for the vine. The chief article of food in that country is ſalted cabbage, and it is one of the principal objects of their cultivation. They ſow the cabbages in the ſpring, and tranſplant them in June, and before winter they become large and hard. The Likans and Corbavians cut them ſmall, and lay them in tubs, ſprinkling ſalt between each layer. That which they intend to preſerve for the following ſummer is carefully preſſed down,

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down, and then they throw ſome meaſures of oats above it in the ſame veſſel, which forms a cruſt, and ſometimes begins to grow. In this manner they may be preſerved two years. The Venetian Morlacchi do not prepare their cabbage in this manner, they only let them ferment and grow ſour in water, and thus they eat them the whole year round. Since the laſt war with the king of Pruſſia, the Likans and Corbavians have introduced the culture of potatoes, by them called *krumpir*, and they ſucceed extremely well.

The country of *Lika* was once in much better circumſtances than it is at preſent; the paſſage from the Ottoman to the Auſtrian yoke, brought along with it a change of conſtitution, which reduced the inhabitants to the moſt miſerable condition. They have loſt, without any exception, the right of property of land; that is diſtributed among the ſoldiers, and on the death of a ſoldier, his reſpective portion returns to the ſovereign. If he happens to leave a family, a mother, a widow, children, all thoſe wretched victims are obliged to leave their habitation, and to beg their bread elſewhere. The ſhepherds, and proprietors of flocks and herbs, are equally wretched; they are not at liberty to ſell their cattle, when, or how they pleaſe, but muſt depend on the will of the officer quartered in their diſtrict. For the moſt part the cattle are taken, and paid for in the military way, that is to ſay, for the half of what they are worth. The cane is made uſe of on thoſe wretches for the moſt trifling cauſes, and as they know it, they often fly into the Turkiſh territory, where they are leſs cruelly treated. At *Carlobago*, where the ſame kind of military juſtice is in uſe, I have ſeen ſuch inſtances of inhumanity, as are too ſhocking to be related. Nor are thoſe poor people allowed the wretched conſolation of complaining,

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complaining, the ſmalleſt complaint is called ſedition, and puniſhed with barbarous ſeverity.

Oppoſite to the mountain *Morlacca* lies the iſland of *Pago*, about thirty miles in length: it was, probably, known by the ancients under the name of *Portunata*. This iſland encloſes among its rocks a ſalt water lake ten miles in length, where a vaſt quantity of ſalt is made; it is frequented by the tunny fiſh, which, when once in it, cannot return again to the ſea. The figure of this iſland is remarkably irregular; its breadth is in no proportion to its length, and one of the extremities called *Punta di Loni* is above ten miles long, and leſs than one broad. Almoſt all the circumference is diſmal, without trees, or any kind of viſible plants or graſs, ſteep, craggy and uninhabited. When I entered the lake, through the channel that communicates with the ſea, I could ſee nothing on the right and left hand, but bare hanging rocks, ſo diſfigured on the outſide by the violent percuſſion of the waves, that the ſtratification was hardly diſtinguiſhable. In general, the ſtone of the iſland is of the ſame kind as the Iſtrian, or *breccia*, and beſides, there are large ſtrata of blue and yellowiſh ſandſtone. The channel, or inward bay of *Pago* is not a harbour; on the contrary, it is a very dangerous ſtation, and even inacceſſible in winter, when the boreal wind blows with ſuch fury, that the inhabitants of the town dare not ſtir out of their houſes, and much leſs the few that are ſcattered over the country. The ſky appears always cloudy in that ſeaſon, by the thick miſt that riſes from the repercuſſion of the waves on that long chain of rough and hollow rocks.

The town of *Pago*, built by the Venetians about three hundred years ago, contains upwards of two thouſand inhabitants, and

and all the reſt of the iſland ſcarcely nine hundred; a ſmall number indeed, yet it may be reckoned large, conſidering the uncomfortable and diſmal ſituation. They cultivate neither corn nor oil on this iſland; but it produces plenty of wine, and an immenſe quantity of ſalt; the other products are wool, honey, and a little ſalt fiſh. The quantity of wine amounts annually, on a medium, to forty thouſand Venetian barrels; and, from the huſks, they diſtill two thouſand barrels of *rakia* or brandy. The ſalt, in 1663, amounted to eight hundred thouſand Venetian *Stare*. The ſalt works are well contrived, and well kept, they extend along a ſhallow pool, which forms the eaſtern extremity of the lake within, for four miles in length, and about half a mile in breadth. On the ſides of this fen, the beſt part of the vines lie; but the upper part of the hills, on each ſide, is altogether naked and barren; there is not even a ſufficiency of fire-wood, and the inhabitants are obliged to provide themſelves elſewhere. The ſoil at the foot of the hills, where the vines are planted, is full of gravel and ſmall ſtones; and hence the wine is of good quality. The air is not unhealthful, notwithſtanding the vicinity of the ſalt pits; but the frequent high winds carry off the noxious exhalations.

The manners of the inhabitants of *Pago* are very unpoliſhed, and ſuperſtition reigns among them. The ſmall town has two convents of friars, and one of nuns within the walls, and, at a little diſtance, there is a fourth. In the convent of the Domenicians, one of the friars is elected by the people, to the office of exorciſing the ſtorms, and of keeping the iſland clear of ſummer rains, which damage the ſalt works, and of hail, which deſtroys the vines. The good friar had executed his office, to general ſatisfaction, for two years, when I was there; and,

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of conſequence, was held in high veneration, and collected very plentiful contributions from the people.

I found not a ſingle medal, nor inſcription, nor MS. or a man of good ſenſe in all that town; every body is intereſted in the ſalt pits, and whoever talks not of ſalt is not regarded.

They pretend that there was an ancient city on the ſpot now called *Terra Vechia*; where there is a convent of friars; I went thither, but had not the good fortune to diſcover any thing like the remains of antiquity.

They ſay that this iſland has been abandoned more than once; and indeed it is rather to be wondered at, that it is inhabited at all; the intereſting object of the ſalt pits being the only motive that can induce people to live in ſuch a diſmal place.

At the end of the valley, oppoſite to the ſalt pits, and ten miles diſtant from the town of *Pago*, there is a tract of land not entirely bad. There the caſtle of *Keſſa veterana* ſtood, whereof mention is often made in the records of the low times; and probably not far from thence, further up, ſtood *Giſſa*; as ſome pieces of ancient marble, inſcriptions, and coins are found thereabouts. That part of the iſland is under the juriſdiction of *Arbe*; there is ſome corn land, and people in proportion, and a large ſpring of excellent water, whereby the ſheep and oxen of that diſtrict are better and larger than in any of the other iſlands of the *Quarnaro*. The names of *Novaglia vecchia*, and *Novaglia nuova*, which the two villages go by, indicate a Latin origin.

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There are about ſix hundred inhabitants in that diſtrict. In paſt times, the ſpiritual intereſt of theſe people was directed by Illyrian Glagolite prieſts, who, to ſay the truth, are generally very ignorant and ill qualified for their office; and, in their room, the preſent worthy Biſhop of *Arbe* ſent a latin paſtor. The Glagolitic tongue, which is the ancient ſacred Illyric, is now but little underſtood. I know not how the latin prieſts will reliſh the duty which the people uſed to exact from their Illyric paſtors. All theſe, and the curate in particular, were obliged to exorciſe the evil ſpirits, and the *Vukodlaci*, or witches who raiſed the ſtorms; to ſtand in their ſacerdotal dreſs, with the holy water in their hand, without doors, expoſed to wind and rain. The impoſtors appeared to act this ſcene very ſeriouſly, making a thouſand motions and grimaces, and leaping from one ſide to the other, as if purſuing ſome *Vukodlak*. I knew one of them, who run after the devil into the ſea up to the middle, and, in that ſtrange poſture, continued his croſſes, aſperſions and conjurations. The iſlanders, while the prieſt mutters his prayers, diſcharge their pieces towards the place pointed at by him; as if to kill the witches, or put them to flight. What fillier cuſtoms can there be among the Lapponians?

On the firſt day of May, a young man, with a branch of a tree in his hand, runs through the village of *Novaglia*, paſſing before all the houſes. The women, who are waiting for him, throw water on him as he paſſes, crying aloud, *May day vodé*, i. e. *May give water*. When the young man has finiſhed his round, he leaps into the ſea, and ſwims about. I aſked them about the origin of this odd cuſtom, and all the anſwer they could give was, that it had been ſo for time immemorial, but they knew not why.

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The women of *Pago*, and particularly thoſe who have been married but a ſhort time, if their huſband happens to die, tear their hair out in good earneſt, and ſcatter it on the coffin; and this ceremony is ſo much conſecrated by cuſtom, that no woman, even though ſhe had notoriouſly hated her huſband, would fail in performing it.

LETTER III.

Concerning the Iſland of VEGLIA *in general.*

OF all the iſlands of the *Quarnaro*, which, between great and ſmall, are more than twenty in number, the iſland of *Veglia* is certainly the moſt conſiderable, for the ancient date of its being inhabited; the number of people it contains; the ſingularity of its ſituation; the amenity of the country; the variety and riches of its commodities; and, finally, for productions of the foſſil kingdom. The ancient greek geographers knew it by the name of *Curicta*, which was alſo adopted by the latins. A certain friar, I know not for what reaſon, deſirous of doing a diſpleaſure to the Veglians, drew the etymology of *Curicta* from *Corita*, which, in Illyrick, ſignifies *a hog's trough*; though the iſland is very far from having any likeneſs to ſuch an utenſil: the ſame friar was greatly offended at me, becauſe I had the courage to differ from his opinion, and wrote a kind of libel on the ſubject, which was judged unworthy to be printed. In the good times the iſland had two names *Curicta* and *Fulfinio*, of which Pliny, Ptolomy, and others make mention. In the decline of the empire, both the chief city and the iſland changed name, and are called *Becla* by Porphyrogenitus, from whence the Latins of the barbarous ages called them *Vegla*, and the Italians *Veglia*.

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Few conſiderable iſlands are ſituated ſo near the main land as this is, being divided from the coaſt of *Liburnia*, or low Auſtrian *Croatia*, by a channel ſcarcely a quarter of a mile broad. It is of an irregular figure, and has ſeveral promontories that ſtretch far into the ſea, as the neighbouring iſlands of *Arbe*, *Cherſo*, and *Pago* alſo have. Its circuit is about ninety-five miles; the length of it is thirty; and its greateſt breadth about fourteen. *Martiniere*, and thoſe who copied him, were much miſtaken in giving it only thirty miles of circuit. The iſland has many ſmall harbours and roads, but no good ſtation for large veſſels; and, in the roads, the ſmaller barks muſt be drawn up on the beach. A part of the coaſt of *Veglio* is quite inacceſſible, on account of the ſteepneſs of the rocks which form it. The ſoil is, for the moſt part, mountainous and ſtoney; but there are ſome very fertile and delicious vallies, which, however, do not all enjoy a good air, chiefly through the lazineſs of the inhabitants, in not giving outlets to the water.

Of the City of VEGLIA, *its Antiquities, Cuſtoms, and Language.*

The preſent capital city of the iſland, where the biſhop, and governour reſide, is ſituated on the very ſpot where the ancient *Curicta* ſtood, as appears by the many remains of columns, cornices, and engraved ſtones, which are ſeen, here and there, in the walls and ſtreets. It is ill built, and full of rubbiſh, and ruined houſes. In ſummer time there is often a want of good water to drink, and the *Scirocco* wind predominates. The inhabitants of *Veglia* take very little care of antiquities, and are very little acquainted with letters or the ſciences. The only man of learning and ſcience, whom I knew there, was the biſhop, of eighty years of age, born in *Friuli*; not in that iſland.

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The moſt honourable and valuable monuments of antiquity that deſerve to be carefully preſerved, are ſuffered to periſh there, through the ignorance of the people. The only inſcription that exiſts in good condition, and that is owing to its having been in the wall of the town-houſe theſe two ages paſt, is the following ſomewhat uncommon in its tenour:

T. PITIVS. T. F. MARVLLVS
DECVRION. DECRETO
PVBLICE ELATVS ET SEPVLTVS EST.

The iſland of *Veglia*, when it belonged to the kingdom of Hungary, was a feod of the Counts *Frangipani*, who had many other eſtates on the neighbouring continent. Thoſe Counts reigned tyrannically there, and ſowed the ſeeds of licentiouſneſs, which are not yet rooted out. About the end of the 15th century, the Count *Giovanni Frangipani* ceded it to the republick of Venice out of neceſſity, as he had not only irritated his own ſubjects by his tyrannical behaviour, but alſo the king of Hungary. *Antonio Vineiguerra*, the firſt author of Italian ſatires, went in the name of the ſenate, to take poſſeſſion of the iſland, and drew up a good narrative of the ſtate in which he found it. From that time *Veglia* became a feod of the Doge, who elects all the beneficiaries, ſuch as canons, prieſts, abbots, &c. and has a kind of ſovereign authority in eccleſiaſtical matters. This dependance on a lay ſuperior reſiding far off, renders the clergy rather diſorderly, and, in general, of not very edifying moral characters; and a biſhop who attempts to do his duty, is expoſed to much oppoſition and trouble. The Doge of Venice cannot attend to petty complaints of the clergy; and the miniſters appointed for that purpoſe, are often more apt to profit by the diſ-

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order, than to remove it radically. A prieſt, for example, accuſed of defloration, has only to pay fifty *paoli* for a full acquittal, according to the law of the iſland. There goes a ſtory of a prieſt, who, being come to pay his penalty, after he had laid down his fifty *paoli*, went on counting out more, and being aſked why he did ſo, anſwered: "I pay before hand for the next de-" floration of which I ſhall be accuſed."

The Greek ſuperſtitions ſubſiſt almoſt all over the iſland of *Veglia*, though there is no clergy of the Greek rite in it. The preſent worthy biſhop *Monſ. Zuccheri*, has not been able to eradicate but a ſmall part of theſe ſuperſtitions, and his well meant and zealous endeavours to extirpate the whole, involved him in very diſagreeable conteſts with his flock.

The whole iſland of *Veglia* contains about fifteen thouſand inhabitants, of which, about fifteen hundred live within the city. In former times, and till the beginning of this century, the inhabitants of the city ſpoke a particular dialect of their own, ſomewhat reſembling that of *Friuli*; * but at preſent they generally uſe the Venetian dialect. In ſeveral villages, the old Veglian language is ſtill in uſe, and in ſome others they ſpeak a mixt jargon of Carnian Sclavonic, Latin and Italian, particularly in one village called *Pagliza*.

Of

* Here is an example of the *Friuli* dialect: *La Iſla de Vicla circonduta da torno dall' jague de mur ziraja circa miglia chiant; ce facile all' approdor de burche de runqua grandezza nei zu puarich*, which means: *The iſland of Veglia ſurrounded by the waters of the ſea, is about a hundred miles round, it is of eaſy acceſs for barks of any ſize in its ports.*

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Of the Ruins of FULFINIO.

Concerning the other ancient city of this iſland, which bore the name of *Fulfinio*, no memorial is extant in the public records, and I could diſcover no veſtige of it above ground the firſt time I was at *Veglia*. In all my rambles through the iſland I found no place that bore the characters of antiquity, either Greek or Roman; or of ages anteriour to the tenth century. But the worthy biſhop *Monſ. Zuccheri* was more fortunate, notwithſtanding his great age, in one of his viſits to the mountainous part of his dioceſe. He was driven by a ſtorm to a place, where, without doubt, there had been a conſiderable ancient ſettlement, and probably the city of *Fulfinio* once ſtood. The biſhop was pleaſed to communicate his diſcoveries to me, and I ſhall here inſert a part of his letter to that purpoſe: "I em-
"barked in order to paſs from *Beſca* to *Verbenico*; but an im-
"petuous boreal wind, ariſing out of the caverns on the Auſ-
"trian coaſt, forced me, about mid-way, to take ſhelter in a
"port called *Mala-luca*, where I was obliged to paſs the night,
"not much at my eaſe. Next day, at ſun-riſe, the fury of the
"tide made us reſolve to go on ſhore. We ſoon found ourſelves
"on a plain of ſmall extent, ſurrounded by very high and rocky
"hills, from whence the wind rebounding deſcended with in-
"expreſſible fury. In looking about for a place to pitch our
"tent, we diſcovered an ancient wall in a very ruinous condi-
"tion, by the ſide of which we were forced to remain two days
"and two nights; for the obſtinate ſtorm continued all that
"time. However, notwithſtanding the wind, finding myſelf
"in a place I had not ſeen before, and ſeeing the ſmall plain
"ſcattered with ruins, not to remain idle, I reſolved, together
"with

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" with my company, to ſee if there was any thing worthy of " obſervation. Nor were our endeavours altogether fruſtrated. " The rubbiſh, and heaps of ſtones of ruined buildings, and " the remains of walls and habitations occupy a ſpace of about " two miles round. On the left hand of the port, are ſtill diſ- " tinguiſhable the ruins of a kind of ſmall fort which command- " ed it; and, at a little diſtance, are ſeen the remains of the " walls of a vaſt building, which doubtleſs belonged to the " chriſtian times, and probably was a monaſtery. In the centre " of theſe ruins, there is a ſmall church uncovered, not above " ten feet broad, and about twenty long; it has a porch before " it, and a chapel, or internal ſanctuary, after the Greek man- " ner, on the roof of which are ſome remains of ſacred painting. " Beyond that, there is a hill of eaſy aſcent, on the top whereof " is a building of hewn ſtones, about half a mile round, with " ramparts like a fort, and ſome ruined habitations within it. " All this was attentively examined by me, and thoſe in my " company, and we concluded that we had thus by accident " diſcovered the ſituation of the city of *Fulſinio*, which flou- " riſhed in the times of Pliny and Ptolomy. Beſides the extent " of the ruins, which indicate rather a city deſtroyed than a vil- " lage, I was further convinced of the remote antiquity of this " place, by ſome pieces of columns of greek marble, granite, " &c. For what cauſe, or what time it was abandoned or de- " ſtroyed, is not eaſy to aſcertain; but if the inhabitants volun- " tarily abandoned the place, it is probable they did ſo on ac- " count of the fury of the wind, which would interrupt their " communication with the reſt of the iſland, ruin their planta- " tions, and even carry away their cultivable land from the ſides " of the hills." The venerable old prelate found no inſcriptions there; though it is probable, that if the rubbiſh were moved at leiſure,

leiſure, and, by an intelligent hand, ſome ſpeaking monuments of *Fulfinio* would come to light.

Of the moſt remarkable Places on the Iſland.

The principal villages of the iſland of *Veglia*, are *Caſtlemuſchio*, *Dobrigno*, *Verbenico*, and *Beſca*; there are beſides, ſeveral other leſſer villages, and many ſcattered hamlets. *Caſtelmuſchio* ſtands on a rock at the weſtern extremity of the iſland, on the ſea ſide, and enjoys an extenſive view of the ſea, and the oppoſite Auſtrian continent. From the ſmall port of this village, there is a ſtreight paſſage to the city of *Fiume* in *Croatia*, which is twelve miles diſtant. The narroweſt part of the channel, which divides the iſland of *Veglia* from the continent, is not far from *Caſtlemuſchio*, at a place called *Vos*; but it is not frequented, unleſs when the ſtorms render the other paſſage dangerous.

There is nothing worth obſervation in the village of *Caſtlemuſchio*. The prieſts of that church ſhewed us, carefully preſerved, two pieces of willow, eaſily known by their bark, aſſuring us they were part of Moſes's rod. In the ſame recipient, in order to join the Old with the New Teſtament, they made us obſerve ſome rings of a chain with which St. Peter was bound in priſon. The ignorance and ſuperſtition of thoſe prieſts is ſhameful; and it is much the ſame all over the iſland.

In the diſtrict of *Caſtlemuſchio*, there is a fine tract of land, partly ill cultivated, and partly left wild, on account of the unwholeſomeneſs of the air; they call it *Lughe*, or lakes, becauſe, in rainy winters, it remains covered with water; and, in ſum-

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mer, it becomes dry again. Near the middle of the iſland there is a permanent lake called *Panighe*.

Dobrigne is a village at ſome diſtance from the ſea near the centre of the iſland, and famous in that country for the beauty and compliance of the women. The Counts *Frangipani* had a villa there, which now a days an ordinary tradeſman would hardly deign to inhabit. There is a prodigious number of prieſts at *Dobrigne*, as is generally the caſe over all the iſland; and hence they are ragged, miſerable, and reduced to exerciſe the loweſt trades, ſuch as ſhoemakers, coopers, &c. But their indecent and immoral way of life is much worſe than their poverty, and there is no appearance of amendment, while the power of the biſhop is ſo reſtrained in correcting vice, or eſtabliſhing diſcipline and good order.

The dreſs of the peaſants over all the iſland is of a coarſe kind of cloth of a black colour, and conſiſts cheifly in a caſſock, and a pair of long and wide breeches, which reach down to the middle of the leg; a number of people aſſembled together in this mourning kind of habit, forms a melancholy ſpectacle. *Verbenico* is alſo a village, though commonly called a Town; and lies at eight miles diſtance from the City of *Veglia*, on the other ſide of the iſland, towards the channel of the mountain *Morlacca*, with a ſmall, and bad harbour, oppoſite to that of *Novi* on the Auſtrian ſhore. *Verbenico* ſtands on a rock, above a ſmall and not unfertile plain, watered by ſeveral brooks. The name of the place is derived from the willows that grow in plenty on the ſides of the brooks, and are called in Illyric *Verb*. There are a great many cattle on this part of the iſland, and particularly horſes of that ſmall, ſtrong and ſprightly breed well known in Italy, and much uſed by Ladies and

and young gentlemen for riding horſes. This part of the country, notwithſtanding the quantity of water, is healthy enough; being well ventilated by the *Borea*.

I found a prieſt at *Verbenico*, who underſtands, much better than his brethen in thoſe parts, the ancient Sclavonic ſacred or Glagolitic language; he ſhewed me a manuſcript wrote in that character, but it had little merit. Now a days the Glagolitic books muſt lie as a ſimple object of curioſity in the libraries, there being hardly any body who can read them diſtinctly, even in the places where the ſervice is performed in that language; and if there happens to be one who can read the character, there is abſolutely none who underſtand the meaning.

The prieſts of *Verbenico* who have the charge of collecting the tithes, and of guarding the church, are obliged to ſleep under a lodge open on all ſides, and contiguous to the ſteeple, from St. George's day to Michaelmas; that they may be ready at any hour to drive away the ſtorms of hail, by ringing the bells; and if the ſtorm continues, it is their duty to go out into the open air bare headed, to conjure it. Perhaps no where are the bells more frequently rung than here; and no ſteeple is more frequently ſtruck with lightening.

Beſca is a large place ſituated on the eaſtern ſhore of the iſland, at the lower end of a fine fertile valley, watered by a perennial ſtream, and flanked, on the right and left, by very high and ſteep marble mountains. The valley of *Beſca* is ſeven miles long; it riſes, by little and little, towards the mountains, on the weſt, and forms a beautiful proſpect, when beheld either from the

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heights, or from the ſea. The Beſians are induſtrious and ſkilful huſbandmen, and the productions of their valley are exquiſite of their kinds. The wine is of excellent quality, the ground being light and gravelly, and the plain warm and defended from the northerly winds. The village of *Beſca* is crouded in the autumn by the principal citizens of *Veglia*, and of the neighbouring City of *Segna*, who come there to enjoy the pleaſures of the country; it may be called the *Brenta* of the Croats. The road, however, is not ſecure for barks, and perhaps for that reaſon, the ancients did not chuſe to build there; preferring the above deſcribed little plain of *Fulfinio*, as having near it the ſmall harbour of *Malalucca*.

Of the Nature of the Soil of the Iſland, its Marble and Foſſils.

The nature of the ſoil of the iſland of *Veglia* is generally ſtoney from one end to the other. The ſtrata are all calcareous, for the moſt part horizontal, and almoſt all marble. The ſubſtance of the ſtone in general is the ſame as that of *Iſtria*, and frequently full of *Nummali*; and in many places there is a very beautiful *breccia* of various colours, fit for columns, pilaſters, tables, and ſuch like works. The fineſt *breccia* is found on the heights of the mountain between *Beſca vecchia* and *Beſca*; though it is alſo found in many other parts of the iſland, and very large pieces are often employed by the iſlanders in the meaneſt uſes; they know it by the name of *Mandolato*. The high mountains of the iſland are generally compoſed of the above mentioned ſtrata, and marble maſſes, from the bottom to the top, but the baſe of the iſland is of ſand ſtone. The banks which are ſeen in the road of *Beſca*, againſt which the ſea beats, are of this nature; and a vaſt quantity of *Nummulari* may be diſtinguiſhed in them. The

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ſame kind of ſtone, with ſome difference in hardneſs and colour, appears again in the neighbourhood of *Dobrigno*, where particularly it reſembles the blackiſh volcanic *ſchiſtus*. The bottom of the country between *Dobrigno* and *Caſtelmuſchio* is not of hard ſtone, as the high parts of the mountains are; but, in ſome places, it is conpoſed of cetaceous ſciſſile ſtone; in others of hard whetſtone; and in others of calcareous marine earth, containing petrefactions. The large *Nummali* marmoriſed form almoſt the whole ſubſtance of ſome ſtrata of hard ſtone ſuſceptible of a poliſh. Near the Church of *Caſtelmuſchio*, there is a maſs of marine earth in which is found a great number of *Turbinati* by no means reſembling thoſe of our ſea.

Between *Verbenico* and *Dobrigno*, near the little country Church dedicated to St. *Griſogono*, there is a very large depoſite of *Nummali*, looſe, and perfectly well preſerved. I diſcovered this by chance, on ſeeing the peaſants of *Verbenico* make uſe of theſe little ſtones in one of their aſſemblies, to give their ſecret vote. It ſeems evident, that the length of ages has, by means of the waters, interrupted the continuity of the marble ſtrata, the remains of which ſtill form the mountains of the iſland, wearing into hollows the vallies of *Caſtelmuſchio*, *Verbenico*, *Dobrigno*, *Beſca*, and other leſſer cavities, and diſcovering the ancient depoſitions of ſeas peopled with ſpecies of living creatures, unlike to thoſe that inhabit the waters now in our days. The human imagination, accuſtomed to look on this globe as of no very old date, is aſtoniſhed to think how great a number of ages muſt have been neceſſary to excavate, by the means of ſmall, and for the moſt part, eventual rills, the immenſe vallies which divide and ſubdivide the mountains; and if we were to begin to calculate, from the notions

notions or accounts we have of the elevation of the bottom of the ſea in a century, the mind would be confounded with the hundreds of thouſands of years that would be requiſite to form, by the deſpoſition of triturations and ſhells, ſuch high maſſes of immenſe extent, and frequently of above a thouſand feet in depth. But in what confuſion and perplexity are we thrown, if we endeavor to conjecture from what mountains were derived, and by what rivers were ſtritulated, the quartzoſe ſand which forms the baſe of ſuch vaſt tracts of country, and from whence were detached the ſmall particles of coloured flints, which, now and then, are found mixed together with *Oſtracites* and *Nummali*. It is certain that the correſpondence of the ſtrata on each ſide of the hollows is perfectly exact, and that theſe interruptions are, in the moſt evident manner, characteriſed to have been made no otherways than by the very long operation of ſlow conſuming waters; and when we have meditated on the ways and the time requiſite to effectuate the diſcontinuation and deſtruction of the ſtoney maſſes, it is but reaſonable to reflect on the origin of the maſſes themſelves. I confeſs that theſe ideas of longevity ſtrike my mind every time I am among the mountains; and hence I cannot ſatisfy myſelf with the various theories and ſyſtems which would explain collectively the origin of the greateſt part of the mountains by the hypotheſis of primitive formation. I know not if, from the beginning, it was neceſſary that our globe ſhould have mountains to render it habitable; perhaps thoſe ſpecies of animals and vegetables which derive the greateſt advantages from them, might receive equal benefit, from the plains elevated of neceſſity by the natural convexity of the ſuperficies; or perhaps the different modifications, of which animals and vegetables are ſuſceptible, would ſolve the difficulties. However this may be,

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it is very certain, that a naturaliſt could hardly pretend to indicate mountains now exiſting with characters of primitive figure, if we except thoſe thrown up by Volcanos, or viſibly inſulated ſome way or other from the time of their formation. It may be ſaid in general, that the authors of ſyſtems on the origin of mountains have not examined the effects of the waters with an attentive and unprejudiced eye; ſome of them, who did not want talents for calculation, ſuffered themſelves to be frightened, at the immenſity of ages neceſſary for performing thoſe ſlow corroding labours; as if it were a reflection on the author of nature to give a very remote antiquity of origin to his works. But we will return to the iſland of *Veglia*.

Products and Commerce of the iſland of VEGLIA.

Horſes of a ſmall and middle ſize make an article of trade in this iſland, though it is not every year of equal importance. The oxen are ſmall and weak: the number of ſheep on the iſland may be about fifty thouſand; but their wool is not much eſteemed, perhaps becauſe they are abandoned to all the injuries of the ſeaſons in the woods, and among the rocks contiguous to the iſland. They have hardly corn enough for four months proviſion; but, in recompence, they make above twenty four thouſand barrels of wine for exportation; that of the valley of *Beſca* is eſteemed the beſt. The firewood ſent yearly to Venice amounts to about five thouſand ſequins. Salt fiſh is alſo an article of ſome importance; but that being a precarious product, it is not poſſible to aſcertain the annual value; and, beſides, the peaſants of *Veglia* are generally more attentive to agriculture than

to

to fiſhing, and ſell all the fiſh they catch in ſmall parcels in the Auſtrian ſtate. They take the ſame liberty, though contrary to the laws, of ſelling their other products, ſuch as oil, figs and almonds, which are not inconſiderable articles, without the Venetian State.

ITER

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ITER BUDA HADRIANOPOLIM

ANNO MDLIII EXARATUM

AB

ANTONIO VERANTIO

TUNC QUINQUECCLESIENSI,

MOX AGRIENSI EPISCOPO,

AC DEMUM

ARCHIEPISCOPO STRIGONIENSI,

REGIO IN HUNGARIA LOCUMTENENTI,

MAGNO REGNI CANCELLARIO,

ATQUE

S. R. E. CARDINALI ELECTO;

Nunc primum e Verantiano Carthophylacio
in lucem editum.

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OPTIMO AC PRÆCLARO VIRO

COMITI

FRANCISCO DRAGANITIO

VERANTIO

SEBENICENSI PATRITIO

J. U. D.

PRISCÆ HOSPITALITATIS

AC LITERARUM CULTORI

EXIMIO

FRAGMENTUM VERANTIANUM

MERITA LUCE DONATUM

GRATI DEVINCTIQUE ANIMI

MONUMENTUM

D. D. D.

ALBERTUS FORTIS.

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Ex Numiſmate argenteo.

ANTONII VERANTII

SEBENICENSIS

ITER BUDA HADRIANOPOLIM.

DECIMA octava, & vigeſima prima Julii MDLIII a Paſſa Budenſi auditi, qui nobis ſe humaniſſimum exhibuit, & non ſolum nobiſcum familiariter, ſed & civiliter præter omnem ſuæ gentis morem colloquutus eſt. Nec mirum; dicebatur enim litteras didiciſſe. Quæcumque autem apud eum voluimus pro voto geſſimus. De conjuratis tantuum Petrovii nonnihil laboravimus; quibuſdam auxilia ex Temeſvaro, Zegedino, & Zolnoko in Iſabellæ Reginæ gratiam ſuppeditabat, quod expreſſe agebat contra inducias. Eo tamen diverſis modis avocato ab ejuſmodi tumultibus, induximus tandem ut polliceretur ſe nihil præcipitaturum antequam nos Conſtantinopolim veniremus. Daturum ſe etiam ad Petrovium literas, qui ex Munkach dicebatur jam cum aliquibus

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bus copiis adventare Varadinum versus, ut interim conquiesceret, & a suo principe expectaret quid facto vellet. Cavit tamen studio, & conatu diligenti ne Stephanum Dobò novum Vaivodam Rex noster mitteret in Transylvaniam cum exercitu: sed Andream Bathoreum, qui jam annum Vaivodatu eo fungebatur, ibidem confirmaret. A cogendo autem exercitu contra Petrovium, & ejus conjuratos, quem cogere magna fama ferebatur, desisteret omnino: quia si pergeret in hoc conatu Rex, nec ipse passa amicos principis sui esset deserturus.

Hæc xxv ejusdem mensis per veredarios Regi nuncjata. Passa nos perofficiose salutatè navibus grandioribus victi IIII, & comitati VI Hassadis classiario milite instructis tutelæ causa movimus è Sicambria, Budamque, ac Pestum prætervavigantes, utraque ex urbe magno bombardarum fragore honoris ergo prosequuti, ea ipsa die ad oppidum Räzkevi V milliaribus Pannonicis a Buda distans pervenimus, ibique noctem insequentem exegimus.

Die XXVI naves ingressi tribus horis ante lucanum tempus primo noctis crepusculo Tolnam venimus, quod oppidum a Räskevi XII disgungitur milliaribus. Nec alium insignem aut nominatu dignum locum ripis Danubii imminentem in eo tractu vidimus quam oppidum Pacchos, vinetis tantummodo circumdatum, & III ad Tolnam milliaribus nostris pertinens. A quo oppido Pachos Paxiorum quoque familia denominatur, quæ quidem & vetus, & clara est, censeturque jam a multis annis in primorum ordine.

Tolnæ hac exacta nocte, & die VII supra XX alto jam Sole inde profecti, noctem quoque insequentem, & diem XXVIII continenter navigavimus, donec luce ad occasum inclinata ad Erdevod arcem, quæ ad Titulienſem Præpositurам olim attinebat, appulimus. Nec in hoc tractu quoque, qui terra XX fere & IIII milliaria, aquis paullo minus quam duplum facere perhibetur, multa vidimus loca, quod compendia rimati fluminis inter insulas tantum sylvis obsitas, & solitudine horridas cursum tenuimus navigationis. Periclitati alioqui sæpius dum per angustiores quosdam

quoſdam meatus fluminis vorticoſis mœandris fœdos, & arborum truncos mediis aquis hic illic inhærentes, tanquam ſcopulos nimis hoſtiles navigantibus vitabundi enitimur. Nec dies tantum quantum nox & pavoris, & periculi attulerat, verum auſpice Deo illæſi evaſimus, Batha olim ſacro ſanguine, Mohacio Ludovicis Regis clade memorabili minime viſo. Quæ autem loca nos, vidiſſe contigit, quum navium libuit rectoribus redire in juſtum alveum, hæc ſunt. Kemzeg Arx familiæ Orbaſſinorum in dextra Danubii prorſus diruta, & deſtituta, ſitaque olim in amœno loco, cui adjacebat clauſtrum Pauli Heremitæ. Deinde oppida nominata Vereſmarth, & Lazkò. Mox Dravi fluminis oſtium, a quo Valcò comitatus ſumit initium, & Baronienſis definit. Poſt Arcem, Erdevod, de qua ſuper nullo honore habitata. In ſiniſtra oppidum eſt Pathay, Baian Caſtellum nuper ab Agrienſi præſidio concrematum, & Zeremlenium vicus non obſcurus priſcis temporibus, nunc parvo admodum poſſeſſus homine. Deus bone! quam ubique optimæ, & fœcundiſſimæ terræ triſtis nobis facies apparuit, quam inculta omnia, quam & agri, & vineæ veprium horrore inſeſſæ, quam omni in loco rarus agricola, rarum pecus, & crebra ſolitudo! Noſter nauclerus homo Raſcianus referebat, quod qui olim ſalvo noſtro Imperio una in villa numerus erat colonorum, nunc in xxx vix par inveniri poteſt. Quid de deletis pagis cenſeas dici poſſe, quorum jam etiam nomina interiere? Verum enimvero dum tuemur, & conſideramus Dravi oſtium, montem quendam altum & acutum verſus civitatem Quinqueccleſiarum conſpeximus, quem quum rogaſſemus quinam mons eſſet, accepimus Harſanum ab indigenis vocitari. De quo mira narrabat meus collega Zay, quæ a veteribus accepta in Hodiernum diem miraculi vice referri ſolent. Eſſe in ejus cacumine pervetuſtam, et jam deſolatam arcem, in eaque puteum ſupereſſe profundum & cavernoſum, in quem quicquid dejeceris, quod natura libratur nec in ima demergitur, effluere in Dravum, qui ei in quinto noſtro ſubſit milliario a ſeptemtrionibus. Res autem in anate aliquando dicitur præbuiſſe experimentum, quæ projecta cum ſigno alligato in memoratum puteum paucis diebus poſt viſa eſt cum eodem ſigno nare per Dravum.

Apud

Apud Erdevod vix cœna ſumpta ubi primum illuxit luna ſolvimus, & enavigato duorum milliarium ſpatio arces inibi exiſtentes Boroh, & Valco videre per noctem non potuimus.

Die vero inſequenti XXIIII cum ortu ſolis apparuit nobis Arx Zatha nomine, quam Turcæ haud ita pridem ſolo tenus diruerant. Inde jam penes amœniora loca, & ubique juſto Danubii alveo tenentes curſum, occurrit nobis Arx Atthya ipſa etiam diſturbata, ultimus Valco comitatus limes, & primus Syrmii. Atthiæ proxima Vylacchum eſt, quam Raſciani Ulok vocant, multum olim memorabilis, ac ne nunc quoque obſcura, curaque diligenti cuſtoditur a Turcis. Erat autem olim Ducis Laurentii, & ejus cognomine utebatur quia habebat hæreditariam. Habuit Vylacchum proventus maximos. Cæterum unum ultimæ conditionis habitum non prætermittam referre, qui appellatus eſt obolarius ab unius oboli collatione. Nec ſuccurrit quibus ex rebus proveniebat; ejus tamen ſumma pecuniæ aſcendebat ad VI millia aureorum; feruntque eam penſionem ſupra quam dici poſſit moleſtam, & oneroſam ſemper fuiſſe ſubditis. Quare ſœpenumero XX millia aureorum Duci ſuo quotannis pendere voluerunt ſi eo proventu eos liberaſſet. Exorari tamen numquam potuit; & profeſſus eſt ſi centuplum pendiſſent ſe non facturum, ne ejus inſtitutores injuria afficeret. Unde quatuor primariorum Regulorum Hungariæ Thomæ Strigonienſis Archiepiſcopi, Stephani Bathorei, N. Orzagi, & Laurentii Ducis IV facete dicta memorantur. Primis tribus tria erant oppida. Priori Kemencze quod *fornacem* ſignificat; proximo Karon quod *damnum*, tertio Gengies quod *uniones*, quarto proventus obolaris quem Fyller vocant. Quum igitur tres illi a Strigonienſi Archiepiſcopo convivio fuiſſent aliquando excepti, mutuoque inter ſeſe de magnitudine opum familiariter concertarent, Stephanus forte Bathoreus prior per extenuationem damnoſi nominis tantas ſibi opes eſſe diceret, ut ex damno etiam redditus illi maximi provenirent: ſubjunxit N. Orzagus ſuas vero tantas ut canes, etiam apud eum in unionibus ambularent: Laurentius Dux protulit obolarem redditum: Thomas demum, quia e re nata hic ſermo in medium prodierat, cupiens ipſe etiam

etiam aliquid afferre ſimile, ſubita cogitatione ditionem ſuam percurrit ac inquit: Domini, mihi quoque fornax eſt, aut malitis Stuba, ea amplitudine ut aliquot millibus hominum hoſpitia ſuppeditare poſſit.

Ab Vylaccho Coroſca caſtellum, & mox Banmonoſtra, Syrmienſis olim Epiſcopatus ſedes, Arx quondam cum oppido non incelebris, & edito atque amœno loco, Danubioque imminenti poſita; nunc jam ſolo ſitu, & exili veſtigio ruinarum nota, nec colono ut ante poſſeſſa multo, deſolatis, & in ſolitudinem redactis innumeris tractibus vinearum, quibus a continenti latiſſime in coronam vallabatur.

Non prætermittam de Cierevogii quoque Arce quæ fuit Valentini Terek meminiſſe, cujus & Atthya ſupra memorata erat, ambeæque iiſdem pollebant dotibus, atque eodem ſitu, ſed ſimilem fortunam ſortitæ ut aliæ ſolo ſunt æquatæ.

Hinc oppidum Kamoncz attigimus frequens olim habitatoribus, & Sacerdotibus, & literatiis ludis celebratum, unumque inter alia quæ in Syrmio habuerunt exiſtimationem non poſtremum, ſive opes & ubertatem loci reſpicias, ſive oppidanorum nitorem, & induſtriam. Centum quinquaginta domos lapideas exſtructas, & decenti ordine poſitas, ne luteas eaſque numeroſas reliquæ plebis caſas enumerem, in eo videre erat. Nunc omnino vix cernuntur xv ſtramineæ. Ferunt loci incolæ VII millia vini dolliorum effuſa fuiſſe in oppido quum initio a Turcis everſum eſt, & inſtar non exigui rivi aream fori, quæ oppidum modica concavitate dirimebat, fluxiſſe genu tenus.

A Kamoncz Varadinum Petri cum occaſu ſolis pervenimus, ibique totam noctem exegimus non auſi per tenebras navigare propter molas oppidi Karon, quæ majore numero per eum tractum Danubii collocatæ impediebant curſum rectiorem.

Die poſteriori XXX ingreſſi navigationem prodeunte aurora Karon oppidum primum vidimus, ubi etiam Arx olim fuerat, ſed a Turcis jam

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disjecta est. Huic oppido etsi pristinus decor ademptus sit, & diminuta domorum habitatorumque frequentia, nullum tamen a Tolna visum est nobis esse hoc Karonte magis incolume, magis frequens, et agrorum vinearumque culturis perpolitum, & in quo solo id temporis vinum Syrmiense retinet existimationem aliquam veteris valoris, adeo in locis reliquis ea cura destitutæ sunt vineæ. Apud hoc oppidum mons Almus, antiquis nostris Frusca appellatus desinit, qui ab ora quæ Atthyam, & Vylacchum Arces discriminat incipit, vinoque singulari notus est, cujus vitam probus imperator primus ex Italia allatam plantasse dicitur. Habet hic Mons XII circiter milliaria longitudinis, latitudinis tria ubi latissimus, totusque ex omni parte per latera, & radices vinetis cultus; juga sylvis amœnis virent, ac densantur citra horrorem. Nunc, quod deplorandum maxime est, vix e regione Danubii, cui grato atque aprico aspectu, spatiosoque satis sufficienter et leniter imminet vertice, omnino XX vineas non ostendit viatoribus: quum olim nullus a sylva locus vacuus non erat vitibus consitus, præsertim vero qui in tumorem magis excreverat, & incumbentem in se propius meridianum solem excipiebat.

Ubi autem hic mons apud Karontem ut dixi desinit, mox eodem loci finditur bifariam, eaque pars quæ petit mediterranea in sinistram regionem vocatur Albus, pars altera, quæ a Danubii ripis non recedit, sortita est plura nomina, ut sunt locorum quibus imminet. Hincque est *Karon hegg ye*, id est Karontis mons, et id genus alia.

Karontem sequitur Zalonkemen, & Titulium Arces cum oppidis, ex oppositio invicem Danubio utramque interfluente alveo latissimo sitas: eaque erat ditionis regiæ, hæc habebat præpositum, tantoque Titulium Zalonkemeno integrius et frequentius esse cognovimus quanto de Karonte dixeramus. Sed id quidem ex auditu, quia sub ipsis muris Zalonkemeni transivimus, Titulium a longe inspeximus. Nec refert de ruinis excidioque, ut putamus, dicere: quia cuncta ruinæ, desolatio, & solitudo habet. Hoc tantum adjiciendum duxi, quod Tibiscus amnis ex Carpato monte per Comitatum primo Maromarusianum fluens, deinde per Cumanorum campos in superiore Pannonia sitos lapsus Titulii al-

luit

luit promontorium, quod habet in dextro latere. Inde paullo ultra cursu provectus, & in paludes sparsus uno tandem ostio Zalonkemeno opposito in Danubium cadit. Adjacet in hoc loco Titulio longior quædam quam latior palustris planities, eaque adeo humilis, & depressa est, ut quotiens vel Danubius vel Tibiscus excreverit aquis tota occupetur. Nec idonea esse potest usibus bellicis, quod aliquando memini me audivisse.

Eadem die ad Zalonkemenum, et dein Zemlinium, quod citra Belgradum parvo spatio positum est, pervenimus. Arx olim fuit, et oppidum obsidendi causa Belgradi priscis factum temporibus a nostris Hungaris. Nunc solo æquata Arce oppidum in pagum redactum. Zalonkemenum autem Arx est similiter et oppidum; eaque in editiore ripa sita est, oppidum ima tenet, vallatum quidem muro lapideo, sed tenui, et vetustate ac hyemali æstu fluminis magna ex parte ubi collapsum ubi perforatum. Arx perinde æque & imbecillibus, et ruinosis præ vetustate mœnibus eminet: nullo insigni ædificio memoranda, et in declive ad flumen pendet. Poteramus ea adhuc die appellere ad Belgradum, quum a Zalonkemeno nonnisi IIII milliaribus nostris distet. Verum quia conductoribus visum est ut mane eo perveniremus, usi per eam noctem lenta remigatione, et prope solo cursu fluminis vecti, circiter mediam noctem Zemlinium advenimus, ibique reliquum noctis exegimus.

Julii die ultima cum sole surreximus, Belgradoque circumspectantes, & mirantes omnibus sæculis præclarum loci situm successimus, quem ut describerem quam proprie fieri potuit vetus jam dudum videndi desiderium fecit.

Ubi enim Zalonkemenum, et Zemlinium prætervexeris secundo fluvio in meridiem a septemtrione venienti occurrit Belgradum, moxque hinc torquente se in occidentem Danubio sub ipsis mœnibus ab occidente tergo recipit Savum, lato quidem ostio, sed nec violento, nec praecipiti. Sine æstu veluti in amicitiam quandam, & consanguineitatem invicem copulantur. Jam hoc loco eminet ripa paullo in aquas prominens pen-

denſque a ſeptemtrione, et ortu, et occiduo; quicquid a meridiana plaga habet continens id planum eſt et late fuſum, nec niſi in tumulos, et mediocres colles aſſurgens. Ubi vero Belgradum ſedet porrectum et æquale jugum eſt, quod et Arcem, et Urbem ſimul ſuſtinet. Verum in oriente ipſa Urbs quadrata, in occaſu triangulari forma Arx poſita eſt, eaque parte qua in acumen turbinatur Urbi inſeritur, turribus et hæc et illa in vetuſtum morem pluribus et frequentibus exædificata. Nec dubium eſt veterum et Græcorum, et Romanorum in veſtigio fuiſſe Belgradum conditum. Arx tamen nec ingens, nec ædificio eximia. Cæterum magis ad aquas videtur vergere, et muro ac duabus turribus diſcreta ab ipſa Urbe eſt. Unde duplex appellatur, eaque Turris quæ genti ſempre fuit nominatiſſima, *Neboyze* nomine, poſita eſt in hoc diſcrimine, nullo nec decore, nec munimento inſignis, ſed quia craſſior cæteris, et in qua campana tenebatur, qua quum in hoſtes procurrendum fuit ſignum dabatur militi ad arma rapienda.

Sed præter hanc Civitatem, quam in jugo ſitam, et cum Arce computatem eſſe diximus, alia Civitas adjacet a jugo ipſo ad Danubium uſque fuſa, ſicque incluſa mœnibus in rotunditatem aliquot angulorum prout ripæ ejus conditio expoſcebat circularis ab ipſa ſumma Civitate et Arce ductis, ut in duabus ejus extremis angulis juxta aquas ripenſe propugnaculum in Arcis modum exiſtat. Et hæc in ſeptemtrionem Danubio et Savo oppoſita ſita eſt.

Declivia jugi orientalis, ubi ſunt portæ Civitatis ſuperioris, et meridianam continentem, quam ad muros uſque planam eſſe dictum eſt, occupant latiſſima, et frequentiſſima ſuburbia hortis immixta. In occaſu, in quo Arx eſt collocata, ingens et amplum penu eſt annonæ bellicæ, quod ſemper refertum tenetur ad uſus expeditionis generalis. Nec aliud juxta eſt ſuburbium quam Procuratorum, et Cuſtodum penu, paucæ aliquot habitationes, et ſervitiorum tuguria.

De Belgradi nominibus dicere non ommittam. Albam Graecam appellavere veteres, credo a Graecis conditioribus, qui ea loca initio tenuerunt;

runt: quod e Strabone etiam in VII cognoscere licet, qui Dacis has regiones, quæ olim Mœsiæ appellabantur, dicit fuisse propinquas, ne & successam nationem Græcis ritibus et religioni addictam, Rasciam scilicet commemorem, et aliud de Græcorum Imperio, quod latissime olim fines protulerat.

Romani postea Taurunum vocavere, ut in Ptolemæo, et in aliis Geographis videre est, cujus rei ratio non omnino facile reddi potest.

Hungari Handor Albam nominant, a vicino colle latiore quam altiore vitibus consito, qui mons vulgo *Handor heggye* etiam nunc appellatur.

Ab indigenis, qui sermone Illyrico utuntur, *Slavni* vocatur *Biograd*, hoc est glorioſum sive famosum a virtute militum Ducumque, qui in præsidio ejus successivis temporibus manserunt ab amisso Zmiderovio, et Rascianorum Imperio.

Jam postremi Scriptores Belgradum nominant a vicinitate Illyricæ dictionis *Biograd*. Ubi notandum est quod hæ Nationes Illyricæ ut plurimum sedes suorum Principum hoc nomine solitæ erant olim insignire, ut de hoc Belgrado, de Alba Regali, de Alba Julia in Transylvania, et de Alba Nezter Arce ad Tyram flumen sita videmus, quæ omnes dicuntur aliquando sedes fuisse Principum. Sed Belgrado Insula est oppositа amœna satis, et aptissima rebus gerendis.

At prima die Augusti, relictis in Portu ad Belgradum navibus, ubi Mysiae superioris est initium, terra Zmiderovium versus iter inivimus, semperque ad Sarnovo Arcem summo in monte dextrorsum sitam respicientes ad Grockam pagum, ubi et Castellum est, quod jam paullo prius quam a triennio contra excursiones Temesvarinorum Turcae extruxerant, pervenimus, atque ibidem nocte exacta secundo Zmiderovium primis diei horis applicuimus, locum sane et Arce, et Urbe, ac suburbio dignum memoratu. Jugum enim quod adjacet Zmiderovio qua parte respicit Danubium abscissa fronte est, et leniter ab imo eminet; caetera in longum

longum tractum porrectum, totum fastigio ac tergo planum, est late fusum, nec nisi solis vineis, & fructifera arbore per magna spatia circum excultum. A radicibus ejus exit planicies veluti animantis, cujusdam inferius labrum duum circiter millium passuum secundum ripam longa, vix vero dimidium lata, eaque penitius in flumen abiens multum & humilis & depressa sic, ut minimis etiam incrementis Danubii submergatur. Zmiderovium urbem summa hoc loci excipit ripa. Ejus autem Urbis forma triquetra est, longior quam latior, altis mœnibus ac xxx circiter turribus rectis, quadratis, æqualibus, & dimidiatim foras prominentibus, interiore in vetustum morem patentibus, apertis, tabulatorumque serie distinctis, magnitudine mediocri, Sopronio tamen nostro paullo amplior. Cæterum cornu tertio adverso amni opposita, in secundo quo aquis alluitur Arcem habet prorsus civitati insertam, & validioribus atque altioribus tribus turribus emunitam, foris vero qua in montem respicit tota vallatur pomœrio, quod in quolibet latere tria ostendit propugnacula; fossaque muro incrustata ac longe profundiore cincta est quam flumen altum sit, adeo ut quum eam repleri usus postulat non immittuntur, sed infunduntur aquarum latices. Quo fit ut e regione quoque fluminis agger, vel potius moles quædam factitia fossæ est circumjecta paullo aquarum superficiem exuperans, quo hyberni glacierum æstus a muris arceantur, fossæque ipsius concavitas ab arenarum influxibus tueatur, quas amnium violentia soleat aggerere. Cæterum loca hic aliquot aperiam Cl. Ptolemæi quæ fortasse hactenus multis fuere ignorata: quamquam & ipse falli possim, nihilominus ostendam dubia me conjectura non fuisse ductum.

Est in inferiori Pannonia quintæ tabulæ Europeæ lib. xi cap. xvi in civitatum nomenclatura Teutoburgium, Cornacum, Acumincum, Rittium, & Taurunum. Et mox in superiore Mysia, quæ nunc dupliciter appellatur Servia, & Rascia, quum sit una atque eadem regio Tabulæ Europeæ ix. lib. iii. c. ix. Tricornium nomen similiter civitatis, & fluvius Moschius, & item Nys, ac tandem Ulpianum civitates. Quæ etsi sæpenumero legerim alias et mecum altius considerarim, consultisque

que etiam aliis auctoribus, & multis hominibus locorum eorum peritis, atque etiam inibi incolentibus, cupidus aliquid veritatis elicere, numquam tamen rem propius visus sum perspexisse, si modo perspexerim, quam iisdem locis visis & peragratis. Igitur quum a Belgrado ad oppidum Nys, qui tractus, ea via quam nos egimus, tota sit latitudo Mysiæ, nullum aliud flumen vidimus præterquam illud quod Moravam incolæ vocant. Visa etiam ejus eruptione in Danubium ad Zmiderovium sub ipsis pene mœnibus e regione orientis, quo loco Tricornium ponit Ptolemæus, sine dubio in eam veni fidem, ut & hic Morava Moschius sit, & Zmiderovium Tricornium. Quandoquidem nec ab re inditum fuit nomen huic civitati Tricornio, quod in triangularem sive tricorneam figuram sit condita, quemadmodum jam memoratum est superius de Zmiderovio. Nec id, ut asseram præsentes muros eos esse, quos olim Tricornium habuit. Verum in ejus fundamentis superstructos fuisse a Mysiæ Regulis nequaquam eo inficias, & affirmare facile audeo id sese sic haberi.

Jam considerata positione Teutoburgii, ostii Dravi, Cornaci, Acumineci, Rittii, & Tauruni, quod nobis introitus Savi in Danubium perfacile declarat, haud dubie & Teutoburgium quinqueccleſias, ut Cornacum Karon, & Acumincum Kamoncz, & Rittium Zalonkemenum esse dixerim, quemadmodum & Ulpianum Sophiam, insigne olim Dardanorum, nunc Triballorum sive Bulgarorum emporium in XVIII milliario ab oppido Nys positum. Loca autem ejusmodi non carent vestigiis vetustatis, passim enim rudera, & murorum ruinas ostendunt.

Caeterum toto haec ora Danubii dextera munita erat olim urbibus, & castellis per Romanos, in quibus praesidia tenebant militaria contra incursiones Dacorum, ut est videre in Strabone Lib. VII, ubi dicit Danubium quam longe per Dacorum agrum fluat Danubium vocari, postea Istrum, donec Pontum attigerit per Getas. Dacorum autem tractus juxta veterum limites ab ostio Tibisci fluminis ad cataractas Danubii erat. Ab his in Pontum Getarum terra censebatur. Nunc ii Valacchi, Transalpini,

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Transalpini, et Moldavi sunt. Quod vero et Varadinum Petri & Zmiderovium opportunum loco ad arcendos Dacos positum sit nunc etiam apparet, quum quicquid est planitiei quæ Themesvari *puszta*, hoc est solitudo, appellatur, in qua duo etiam colles existunt insignes, & vicini inter se alter *Mezere somlyo*, alter *Er somlyo* nuncupatus, hoc totum Varadino Petri, & Zmiderovio velut sub oculis, aut sub specula quadam situm est facileque ad occurrendam omni hosti habet facultatem. Unde quandocumque etiam in ditiones siniſtri lateris Danubii Turcæ excurrere, aut exercitum educere solent, semper ad Varadinum Petri vadum habent, ut nullo alio loco commodius.

Verum hic prorsus nos III die Augusti digressi a Danubio, idem recta in orientem conversus est: Mysiæ nos interiora petiimus & gradientes dextro latere amnis Moravæ, terra nimirum ampla, fertili, nec minus pulchra, atque amœna, & montibus utrinque comitata, quorum juga memorosa agris erant referta. Cæterum eodem die Livadam pagum venimus, qui est ad torrentem Jessenizam, & sylvam Lomnizam situm. Quem locum dum peragramus, & inambulamus adverso torrente, didicimus domum Pauli Bakyth Venciaz nominatam haud longe fuisse, in qua olim antequam a Turcis ad nos transiret habitabat. Qui Paulus homo erat, ut scis, e Rascianis oriundus, & quum ob virtutes bellicas, quibus insigniter pollebat, tum ob fidem in Regem nostrum non vulgarem, dignus certe est ut ejus vivat memoria. Ut enim non obscure vixit meritoque inter ductores belli relatus fuerat, ita etiam obiit clara & memorabili morte, clade Joannis Coceanori in Comitatu Valco apud arcem Ivancam (quæ erat ante quam a Turcis caperetur Francisci Zay collegæ mei) dum fugientis nostri exercitus qua frontem qua latera & demum omnes partes unus inter Duces, magno animo, & periculo suo protegendo, identidem in hostium insultantium procurrit cuneos.

Hoc pergentes tractu Turcas quosdam assequimur, qui equos ac mulos plenis hominum corbibus pellebant oneratos, parsque eorum, qui gestabantur in hunc modum, persona linei panni habebant tectas facies, pars vero apertas. Quæ res etiam mihi præbuit causam quæstionis. Novitas

vitas enim ejuſmodi, in ſolo tam a noſtro alieno, monſtri cujuſpiam fecerat ſpeciem. Quid, inquam, ſibi volunt perſonae Dyoniſiales? quid ea hominibus jumenta onerata? Mercatoreſne ſunt, an furtivi aliqui? Reſponſum eſt. Onera captivos eſſe; caeterum qui perſona tegebantur juniorum, & nobiliorum notare conditionem, quibus caveretur ne ſolis ardore ac pulverum injuria facies illorum laedantur & ſi qui forte fuiſſent ſuffurati e propinquis locis, ne agnoſcantur. Reliquos mercatores eſſe, & alios ex ultima veniſſe Thracia, alios Aſia, tamque extime ad confinia prodire conſueſſe ut captivos ex copia vilius emant, charius in patria vendituri. Horrendum profecto, & lamentabile fuit ſpectaculum videre hominem venalem ut pecus, et tractari tam viliter.

E Livada pago egreſſi die IIII menſis memorati, moxque ſylvam emenſi non impendio magnam, quam ſupra Lomnizam vocari dixeram, in tertio circiter milliario pervenimus ad vadum amnis Moravae *Derventh* a monte cui ſubjacet vocatum, quo et vicinus pagus nomine nuncupatur; eaquae ſylva etſi brevis, et non adeo denſa ſit, latronum tamen inſidiis infamis eſt.

Ubi autem flumen caepiſſemus trajicere alii Turcae occurrunt, inter quos unus erat caeteris habitu, veſtituque amplior: et eos quinque Ægyptii, quos nunc Ciganos, ſive Cinganos appellamus, una atque eadem catena colla vincti, et ordine tracti ſequebantur, lamentabiles voces edentes, et egeſtatem excuſantes. Quaeſivi tum ii quinam forent, et quae cauſa catenarum? Retulere exactores eſſe tributorum, quae tam ex pecuniis, quam ex impuberibus proveniunt. Exhorrui nefarias decumas, et contumeliam.

Didici tunc morem fuiſſe olim quinto quoque anno hoc impuberum tributum legere. Nunc et ſecundo et tertio, idque ſeverius quam pro lege conſueta corripi enim etiam veritos, paciſcique pretio avaritiae gratia, eoque extorto denuo reſtitui. Quo fit ut miſera plebes, audito hujuſmodi exactorum emiſſio, ubi eoſdem adeſſe ſenſerunt in ſylvis abdunt liberos, vel amandant alio donec ea lues praeterierit. Qua inclementia

non utuntur victoriarum initiis, sed post, ubi longius protulerint finiunt pomœria, & jam adepta bene constituerint. Expendant hæc qui Turcarum sceptra expetunt, & iis clementiam erga genus nostrum inesse credunt. Ducti autem sunt hoc fuco et Graeci, et Mysi, et Thraces, et reliqui quique prius subacti. Nunc jam ad nos quoque translata eorum potentia reliquos omnes protrivere. Sed redeo. Trajecto amne Morava, paulloque ultra provecti, montem Lucavizam, quem e Scardo monte ab Illyriis in Mysiam usque procurrisse puto, cœpimus scandere, qui non quod arduus, quod acclivis, & difficili via sit infamem vulgo esse affirmant, sed quod numquam careat latronum frequentia. Vidimus in hoc tractu in sinistra ora amnis Moravae versus Danubium duos olim nobiles Comitatus Branicievo, seu Brancio alterum vocatum Hungaris, alterum Cuciaevo excelso monte praeditum, cujus etiam partem praeterivimus. Montis inde Lucavizae trium ferme milliarium jugum jam ut dictum est initum, et prospere superatum: descendimus ad Jagodnam oppidum positum in planitie rotunda, spacioſa, et corona prope lenium montium, hoc excepto Lucavizae, circumdatum gaudet optimi soli, & pulcherrimi situs conditionibus, et amne Morava, cui in dextra parte adjacet. Hoc in oppido domus erat Baly-beghi cognomento Kuciuk, qui Stephanum Mailadum fraude Petri Moldavorum Vaivodæ interceptum in Turciam captivum abduxerat. In quibus domibus, quae jam satis collapsae, et desolatae fuerant, ea nocte hospitati sumus.

Augusti quinta movimus Jagodna, usique ea die facili via, sed aestu perquam molestissimo, ad pagum Rasgni nuncupatum promovimus. Qui pagus situs est in VI milliario a Jagodna sub colle memoroso, dictusque incolis Rasgni, hoc est veruta, quod ea loci propter duorum montium arctiorem invicem concursum postremi Rascianorum Principes, dum incursionibus Turcarum intime etiam pro foribus Zmiderovii, ultimae suae ditionis perfugii validius premerentur (quod Lazari temporibus fuisse memorant, quem ab Amnrathe magno Turca constat esse occisum una die cum Miloſſo Kobilith) obicem descatarum arborum ramis earumdem mucronatis mutuoque nexu implicitis ac veluti veruta in adversos hostium incursus versis (Cervos appellavere veteres) objecerant; isque pagus tametsi antea alio nomine fuisset praeditus, postea tamen

tamen crebris hostium irruptionibus vastatus ac deletus est. Successu inde temporis, quo jam subjugata ea regione Turcis parebant omnia, idem per veteres colonos restitutus quemadmodum mutarat dominum ita mutavit & nomen, dictusque est ab his cervis in verutorum formam fastigiatis *Rasgni*, quod vocabulum Illyricum est.

Proinde hoc primum loco, hospite nostro nobis referente, didicimus viam qua pergebamus stratam esse in Romanum morem, et Trajanam appellari, sumereque initium apud Belgradum, et ad Constantinopolim desinere.

Miratus sum tanti Imperatoris memoriam adhuc apud tam rudes barbaros superesse. Verum non animadversa hac via a Belgrado ad hunc pagum, vel quod sit alio translata, vel terra obruta, diligentius illam observavi deinceps, et comperi rem ita esse. Porro eadem via constrata est lapide non quadrato neque grandi sed mediocri, eoque qui ubique obvius sit. Ejus autem latitudo IX est passuum soliti humani incessus, nec alibi usquam partem vel frustum illius integrius, & exactius vidimus quam in exitu ab oppido Nys, quod erat longum passus circiter CXL. In locis aliis modo a dextra, modo a sinistra, frustim occurrit, apparetque per intervalla, quod partim obtrita, & disjecta sit, partim luto obruta, & fruticibus hausta est, adeoque tam nobile, ac perpetuum opus male est intellectum, ut etiam vitetur sæculi hujus viatoribus, neque alio viatore quam pedite calcata, idque imbrium dumtaxat tempore.

Sexta inde Augusti, trajecto jam, & a tergo bis relicto amne Morava, venimus ad oppidum Nys, quod olim Nessus vocabatur & fuit non obscura Civitas. Nunc mercatorum tantummodo frequentia, ruinarum aggeribus, & prostratae, ac late jacentis urbis cadavere memorabilis. In qua quæ veterum Romanorum elogia lapidibus insculpta reperi, dedita opera vestigata, & transcripta hic subjunxi memoriæ causa, & tuæ benevolentiæ gratia.

(I)

I. O. T. M.
CAPITOLI
NO EX BOTO P
NICA HERME
PRO SALUTE
DOMINI NO
STRI.

(II)

I. O. M.
PRO. S. D. N.
AVG. M. VLPI.
MARTINUS STR.
CoS. LEG. VII. CI
V. R. FUSCo. ET
DEXTRO CoSS.

(III)

D. M.
G. IVL. VINDICI
VET. VIX. ANN. LX.
ET AELIAE SERE
NAE EIVS. VIX. AN.
XXX. G. IVLI. HER.
MOCORANICI
L. FLORUS VESTRI
VS. ET TZITZIS
LIBERTI. ET AELIUS
FECVNDVS CoS
MVS. B. M. F. C.

(IV)

I. O. M.
PRO SA. DD.
NN. AVGG.
AVR. GAIVS
MIL. LEG. VII.
STR. CoS. Pos.

(V)

D. M.
VLP. AELIA
NVS VIX.
ANN. XXXV.
ATILIAE INGE
NUÆ CoNIVGI
B. M. P.

(VI)

I. O. M. FVL.
ET IVN. REG.
ET DEO LIE
ET HILA REG.
G. IVL. SERVAN
DVS VET. ET
FL. NVMISIUS.

(VII)

I. O. M.
DEPVLSORIO

(VIII)

(VIII)

I. O. M.
PRO SAL. DD. NN.
AVGG. MAR.
VAES. MIL.
LEG. III. SIR. COS.
PO.

(IX)

DEABVS
PLACIDI. FAV.
VLP. LAETUS
EVERSU
EX VOTO
PRO LIB.
P.

(X)

D M.
C. AVRELI. RVFINA
VIXIT ANN. XXX.
TOL. VALERIANUS
CAPRINI CVL.
TORI. B.
CONIVGI PIEN
TISSIMAE FA
CIENDUM CVRAVIT

(XI)

I. O. M.
CAPITOL
INO DEO
VLP. RVF. EX
VO. PO.

Plures & inſcriptiones ejuſmodi, & alia ſcitu digna monumenta vetuſtatis hujus Urbis invenire potuiſſemus, ſi diutius in eadem nobis manendi, & liberius luſtrandi facultas fuiſſet data. Nam paſſim et fundamenta veterum murorum e terra prominentium oſtendit, & oppidanorum rara fere domus eſt, quæ aliquem non habeat lapidem Romani operis indicem. Verum non ultra ibidem immorati, quam tres ultimas ejus diei horas quo appulimus, et noctem inſequentem, prohibiti interim etiam a comitibus itineris, ne pro arbitratu noſtro vagaremur, vix hæc pauca corripuimus verius quam colligimus. Igitur ommiſſis his redeo ad Nys, quod de inceps Neſſum cum antiquis nominabo, ſitumque ejus pro virili parte mea deſcribere conabor, ſed paullo poſterius, ubi prius totius hujus ipſius oræ qua proceſſimus a Belgrado poſitionem demonſtrabo, conſideratis montibus, campis, fluminibus, & aliis quæ huc facere videbuntur; ſumeturque hujus conſiderationis initium a Scardo Monte, qui juxta v Tabulam Europæ Ptolemæi junctus eſt ab occidente

occidente montibus Bebiis, a meridie vero Orbello ne ulterius commemorem ab usque ipsis Pyrenæis, a quibus omnes sumunt originem qui Catena Mundi appellantur, quod uno ordine ab occasu in ortum provecti donec Scardum attigerint, inde a Scardo ad meridiem ducti in Pontum supra Mesembriam civitatem desinunt. Cæterum ubi Scardus a Bebiis contiguis recesserit, quicquid est per Dalmatiæ regiones, per Bosnam, Herzegovinam, et demum in reliquæ ejus plagæ Illyricæ montium usque Belgradum, & Zmiderovium, et medios cursus fluminis Moravæ, hoc totum Scardi est, teste eodem Ptolemæo in Tabula xx. Et hucusque, quemadmodum antea dixi eum ramos per tot regiones extendere, progressus, Danubiumque in orientem prosequutus, non ausus forsan cursu cum eodem certare in meridiem sese flectit. Ductus inde recto margine per XXII ferme nostra milliaria advenit ad Orbellum, sed minime illi adjungitur, amne Morava, quem diximus Moschium veteribus fuisse appellatum, prohibitus. Ortus enim hic Morava e radicibus Scardi in regione occidentis in orientem primo vehitur, eoque cursu Scardum suum hoc loci dirmit, quo qui Catharum sive Ragusium ire pergunt iter agunt. Mox in septemtrionem versus Jagodnæ oppidi agrum perfluit, & illinc iterum ad ortum torsus saltum Lucavizzæ, qui in promontorii modum porrectus denuo Danubium sequi instituerat, circumvehitur, ac post in priorem rediens lineam paullo infra Zmiderovium, Danubio miscetur. Scardus vero hunc in modum cum amne Morava, & montibus qui ultra Moravam siniſtrorsum e Kuciævo exeunt, continuoque tractu cum Orbello quadamtenus, & cum Hæmo donec in eundem desinunt in inferiore Mysia magnis campis, & fertilibus interjectis, quos medios Trajana via insidet, hic coactus desinere nobis & de Orbello, et de oppido Nesso dicendi latius causam fecit.

Sed, & Orbellus non ultra XVIII milliaria versus eandem plagam recta linea progressus Izcare amne, qui Ptolemæo Ciabrus dicitur, a conjunctione Hæmi prohibetur. Verum ad Nessum redeo.

Civitas olim fuit non incelebris, si et situm ejus consideres, et ruinarum cumulos; eique fuit nomen Nesso secundum Ptolemæum, ab amne

Nesso,

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Neſſo, qui eandem poſitionem ſeu curſum habens quem etiam Morava oritur in Orbello monte qua eſt meridiei oppoſitus flexuſque inde ad orientem per interſtitium quo Hæmus, et Orbellus disjunguntur per oppidum Neſſum labitur paulloque ſpatio unius milliaris illinc curſu provectus, condit ſe in Moravam non multo infra eat unguſtias, quibus Scardus ad Orbellum non eſt admiſſus.

Sub hoc igitur Orbelli initio ſitum eſt Neſſum oppidum loco plano, & ſatis amœno, nullo tamen decenti ordine vicuum diſtincto, et niſi mercatoribus abundaret, & antiquæ urbis tanta veſtigia haberet, vici ſpecie eſſet.

Montium autem, quos dixi a Kuciævo Comitatu provenire, noſque Conſtantinopolim pergentes a ſiniſtra comitabantur ſpatio largiore quam quos in dextra habebamus, nomina conſequi non potuimus partim ob celeritatem itineris, partim ob barbariem incolarum, & quod non uno vocitentur nomine. Verum longo tractu ab agro Sophiano ulterius curſu inſtituto promoti Hæmo junguntur, et in ejuſdem etiam nomen tranſeunt, quod quum ad Hæmum pervenero pluribus enodabo.

Cæterum quod adhuc ad ſitum Neſſi attinet, nec prætereundum mihi eſſe duxi, montes præfati quos diximus nobis pergentibus dextra lævaque exiſtere, hoc eodem loci in rotunditatem quandam theatralem longamque quantum duo milliaria noſtra circumagere poſſent inſimul coeunt, et addunt eidem oppido non exiguum decorem.

Proinde apud Neſſum die etiam VII ob equorum laſſitudinem exacta, octava inde diſceſſimus: emenſique eo ſpatio, quod vix IV millia paſſuum faciebat, appulimus ad ſaltum Cunovizzam ætate noſtra appellatum, qui ut eſt arduus et longus, ita et difficilis eſt præſertim curribus ob lapidum frequentiam, viæque anguſtias, crebriſque et nimium repente incurvatis gyris interſectas.

Hic

Hic ſaltus ſimili modo atque Lucavizza e Scardo inſtar promontorii protenſum eſt ex Orbello in ortum, videturque etiam ipſe appetiſſe conjunctionem montium eorum, qui nobis erant ſiniſtrorſum, cupiens latius evagari. Neſſo tamen, et ipſe ut Morava Lucavizza juxta Pyroth oppidum, et Arcem ejuſdem nominis deſtitutam labente longius ab itinere noſtro a ſiniſtris repreſſus hic finem fixit Cunovizza. Neſſus vero ulterius lapſus indit nomen oppido, poſtea ut jam ante diximus intrat in Moravam.

At nos ea die initia tantum ſaltus Cunovizzæ peragrati venimus ad Pagum Zuha Clyſſura, merito et Bulgaris, et Raſcianis Zuha Clyſſura, hoc eſt ſicca rupes nuncupata, qui locus et vilis, et egenus eſt. Cæterum hic primum quo ornatu decorant ſeſe Bulgaricæ mulieres vidimus, iſque nobis mire ut ſimplex ita levis et ſane deridiculus viſus eſt: niſi ſi hac ipſa ſimplicitate oppreſſam gentem a Turcis, et imprimis agreſtem, vixque ſe homines eſſe agnoſcentes excuſabimus. Nec de veſte eorum loquendum eſt, quæ eſt omnino villoſa, aſpera, et vilis, qualem fortaſſe gauſapinam veteres habuere, tantumque manicæ et pectoralia induſiorum craſſiore ſerico, eoque verſicolore variegata. Capitis, et colli, et aurium monilia perpendenda diligentius. Crines a fronte diſcriminali facto in tenues, et crebras tricas colligunt, ductoque earundem tricarum ſic ordine collectarum margine per tempora, et ſupra aures, additaque etiam illis ex ſtaminum laneorum in crinium colorem tinctorum quædam quaſi ſupplementa eiſdem adhibent, ut appareant copioſiores: rejiciunt in tergus, et in unum quoddam velut rete aſtringunt, et demittunt infra cingulum. Hoc virgines. Maritatæ coactis crinibus altius, vittæ poſtrema varie ſericata demittunt loco crinium ab occipite. Reliqua quæ dicentur utriuſque communia.

Pileos habent ut lances ex tenuiſſimis virgulis factos ita ut ea pars, quæ apud nos caput obtegit et ſuperne eſt clauſa, apud hos aperta eſt ſummoque capiti imponitur parte latiore in cœlum verſa, perinde ac ſi veſtis fimbrias humeros ſupra attolleres, humeralia ima tenerent nudis omnino crinibus ſubtus apparentibus, adeo ut quiddam ſimile eſt

Ægyptio

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Ægyptio diademati, quod in diſci morem planum eſt. Cæterum hic ipſe pileus lineo, & candido panno omni ex parte circumvolvitur, ornaturque ubique exterius partim aſſutis partim appoſitis quibuſdam veluti nummis plumbeis, æreis, vitreis, & id genus multis aliis ex pellucentibus rebus, nihili alioqui, ſed ad omnem motum crepitantibus. Ad hoc et capiti nihil non ex omni genere tum florum tum herbarum, quæ habent quippiam gratiæ peculiaris. Uvas præterea, et glandes, & bacchas, et ſimilia indunt in circuitum. Aures vero quaterno, & quino loco vulnerant punctim, appenduntque eis plumbeas inaures, ponderęque longe graviores quam valentes pretio. Habent ſimili ex materia manicas, et dextrocheria; ſed ſeniores femminæ, et promiſcue tam virgines quam vetulæ anulos æneos plures; ima omnino internodia illis onerata. Cæterum gerunt et torques, ſed non aureos, vel argenteos, in quibus præcipuum locum habent conchæ quædam marinæ diverſi generis, poſt orariæ baccæ noſtri moris e vitro factæ. His ſuccedunt nolæ, quas nos alligamus accipitribus; has ſequuntur nummi calculatorii ærei Rhenenſes, & fruſta thoracis hamati ex chalybe, & demum quicquid uſpiam lucidi occurrerit torquibus apponunt, & collo pluribus ſpiris aggerunt. Nec uno ejuſmodi torque contentæ quæ ſunt in pago magis inſignes duos, tres, et quatuor geminant, adeo ut quamplurimæ nobis obſtarent de nobis mirabundæ, et nos de illis, deque his eorum ornatibus: una quæſivit an noſtræ mulieres tam pulchre ornarentur? Beatae quae noſtros luxus ignorant, et ſuos in rebus quae ſunt nullo impendio ponunt, nec minus ſua paupertate contentae ſunt quam noſtrae ſuis divitiis.

Nona die Auguſti, praeterito, et viſo tantum ſub ſiniſtris montibus praeter quos Neſſus labebatur oppido Pyrotto, Arceque ejuſdem nominis vetuſta, et deſtituta, quae cujus fuerit antiquitus incolae dicere neſciverunt, ad pagum Czarevo Brod nuncupatum venimus, de quo dicendum nihil eſt.

Decima poſt relicto pago Czarevo Brod ſimili difficultate viae uſi ſumus qua in ſaltu, niſi quod aſcenſum non habuimus. Paucis enim inde

evecti passibus in angustias duorum montium, quae quasi claustra saluti jam desinenti subjecta sunt, devenimus. In quibus praeter horrorem inferne lapidum, et aquarum a lateribus montium, et ubique nemorum solitudinis ingratam speciem nihil cernentes, hisque ipsis angustiis VI horarum dato itinere tandem in patentes campos pervenimus, qui montibus collibusque in lata spatia fine, inde per latera excurrentibus, et multis quidem cincti, quamquam majori ex parte saxeis, calvis, et nudis sylvis agros nec gratos admodum praebent, nec frequentes incolarum pagos. Esto quod illic mortales solo pecore, et satis vitam traducunt: ii tamen miserrime premuntur, et expilantur a viatoribus Turcis, unde longius etiam a via publica sedes habent. Quo factum est ut illa die egregie jejunaverimus, donec ad pagum Bellizam perducti fumus. Hinc vero die VI Zophiam, ubi non usi hunc ipsum diem, et insequentem noctem traduximus.

Est autem Zophia campestris civitas sine muris late et in longum patens, ac frequens aeque habitationibus ac domorum copia, et Bulgarorum ingens emporium multo mercatorum concursu celebrata, sita in plano, sed paullo edito loco, sub monte Vitossa incolis nominato, ac in Orbelli montis fine habito, qua idem Orbellus ad v mille passus ulterius progrediens Haemo, ac Ciabro flumini propinquat.

Domus in ipsa nulla est insignis, nulla ferme lapidea; omnes humiles et humo tenus tectae et ligneae; et si quae sunt nobiliore structura ex formato quidem lapide factae sunt sed incocto, et cuppis tantum coctilibus opertae. Templis dumtaxat ornata est Turcicis, et eminentibus eorum columnis cochleis, quae in campanilium nostrorum morem evectae eminentius, praebent speciem urbibus non indecoram; ex quibus sacerdotes eorum horas diei, et ornandi tempora clamoribus denunciant validissimis tam die, quam nocte. Nec aliis in aedificiis molestiorem curam ponunt quam Templorum, Balneorum, Pontium, et publicorum Hospitiorum, quae *Kervenzarai* vocant, quasi Caravanarum Palatia; contenti in reliquum ab coeli tantum injuriis tutos esse. Templa, & Balnea, et Pontes diligenter, & aeternitati, ex quadrato lapide quadrata

construunt,

conſtruunt, eaque rotundis plumbatis *Cubis* cooperiunt forma a Graecis et a Romanis accepta. Nec frontem Templorum, hoc eſt ſanctuaria, orienti, ſed meridiei opponunt, cochleas Africo, quae eſt plaga inter meridiem & occaſum; eaſque ibidem XII numeravimus.

Urbem autem hanc vetuſtam eſſe et Ulpianum olim fuiſſe vocatam vel ex Ptolemaei poſitione judico, quam in Dardania ponit, cujus Dardaniae nulla jam exiſtit memoria. At Zophiae apparent antiquitatis veſtigia ex ruderum copia, quum etiam numiſmata Romana eruat, et moeniorum non paucas oſtendat particulas. Eſt praeterea in ea Aedes ſacra Graecae ſtructurae, et praeſtanti magnitudine, quae nunc in uſu nullo eſt, paucaque loqui de illa cogor, quia videre non vacavit. Caeterum hoc tantum incolae retulerunt. Graecum fuiſſe Imperatorem qui quum tutelare Numen una cum uxore divam Sophiam habuiſſet, maritus Conſtantinopoli, uxor Ulpiani Templa illi condidere, ab eoque tempore Ulpiani ſupreſſo nomine Zophiae ſucceſſit. Fluvium autem habet bipartito diviſum propter molendina, quae intra urbem poſita ſunt; & ab ipſa urbe nomen obtinuit, qui magnus non eſt, niſi quum imbrius intumeſcit. Nos alterum ejus curſum in urbis limine ſicca rota pene, alterum parvo ponte pertranſiimus, orituque in jugis Vitoſſae montis, & in Ciabrum cadit paullo infra Civitatem.

Verum hinc XII profecti Auguſti ad milliare unum Pannonicum in Ciabrum amnem antiquis, nobis Izcarem dictum incidimus, ibidemque initium Haemi montis attigimus. Porro ortus Ciabrus in Orbello ad radices meridiem ſpectantes in orientem primum labitur, mox in ſeptemtrionem verſus Orbellum ipſum ab Haemo dividit, & in Zophianos campos erumpens ſub ipſa Civitate currit praebetque non alia illi commoda quam piſcium, idque citra magnam copiam. Poſt paullo infra Alutae oſtium e Tranſalpina ab Tranſylvania venientis Danubium ingreditur.

Izarem autem Ciabrum eſſe non difficili conjectura aſſequutus ſum. Primum quod juxta poſitionem in Ptolemaeo hujus fluminis, aliud flumen

nullum est, deinde quod moderni quoque incolæ hunc ipsum amnem, & urbem Zophiam terminum ponunt inter Mysiam superiorem, et inferiorem cum Thracia, quemadmodum et Ptolemæus lib. III de situ harum Provinciarum scribens, & Izcarem vocant, ut jam diximus. Cæterum flumen Chrysio nostro Transylvano, quem a Sebego Sebesianum appellant Chrysium, pari est magnitudine, sed nisi interventu imbrium ac resoluione vivium. Alioquin ubique facile trajicitur citra et pontem & navim. Repente tamen quum incrementum acceperit furit, adeoque rapidum ferunt, ut ne lapideum quoque pontis jugum admittat, eaque causa ligneo Zophiani conjungunt. Verum quotannis, eo excusso idem illis reficitur.

Ab Izcare ad Tarnavo pagum promovimus, qui est ad radices montis Hæmi, ut conscendi incipit, habetque rivum exiguum, et ignobilem nec in tanti ut in literis ponatur; quamquam quidem in Nova Tabula apud Ptolemæum appoſuerint, pinxerintque currentem in Danubium quum in Izcarem influat, addito illi etiam lacu in medio, quum nos ne ipsum quidem conspexerimus, tanta siccitate exaruerat. Monte præterea imminente conscenso, et incolis perquisitis diligenter de hoc ipso lacu, nec visu eo latissime protenso assequuti sumus, nec incolarum relatu, quem dixere lacum inibi esse nullum.

Ex Tarnavo ad Hæmi primos colles accessimus, qui adeo asperi fuere et incommodi, quamquam non ardui et eminentes, ut in superandis non sine periculo rotarum per duo milliaria sudaverimus donec ad Vaccharel pagum cum occidente sole evasimus, ubi ampla est planities alpibus interjecta, et pluribus circum per radices earum pagis coronata. Nec aliter eadem planities fuga est quam area quæpiam in Civitate, adeo grata videtur aspectu. Cæterum pagani hujus loci referebant nullos prorsus priscis temporibus ibidem colonos habitasse propter latronum frequentiam, eaque etiam causa viatores quoque in agmen coire oportebat quum illac erant transituri. Postea, quo tempore Belgradum nobis ademptum est, Passæ cujusdam industria Solymanus Princeps incolas collocavit, neque id solum hoc loco, sed per totam eam viam qua

Hæmi

Hæmi juga transcenduntur. Et insuper passim locis magis infamibus vicinos Pagos jussit custodiendi gratia excubias apponere, quas singuli pagani ordine inter se partiuntur stipe e communi exhibita. Hæ autem excubiæ sic aguntur. Viæ publicæ locum in montibus deligunt eminentius imminentem sic, ut et viam ipsam habeat sub oculis, et latissime quaquaversus commode possit prospicere; in eoque casula straminea constructa unus dumtaxat homo excubat. Nec aliud ejus officium est, quam ut ubicumque vel in via vel in sylva viderit homines, tympanum pulsat, innuitque eo signo hominibus memoratis animadversos esse ab excubiis. Jam si forte fortuna quopiam loco latrocinium fuisset commissum, ejusdem loci mox incolæ sub quæstionem coguntur, et nisi aut fassi fuerint latrocinium suos homines commisisse, aut ostenderint quinam commiserint, aeque pœnis mulctantur ac si ipsi revera commisissent. Quo factum est ut alpes illæ secure hoc tempore superentur, etiam paucis comitibus: dum quilibet pagus, ubi antea ipse latrones emittebat, nunc metu pœnæ territorium suum custodiat. Sed jam ad reliqua.

Tertia decima die post a Vaccharel Pago moti primum memoratam planitiem percurrimus; inde pedetentim in colles, mox in montes alios aliis altiores incidimus, per quos in summa enitentes conatu maximo tandem ad ardua, confragosa, & sylvestria prorsus evecti, ægre in cacumen, et summa juga die illa tota itinere continuato pervenimus: ubi duo Pagi sunt uno milliari nostro inter se distantes, quorum priori Zuha Clyssura, Vetren posteriori nomen est. Et in utroque extant quædam vetustatis monumenta. In Zuha Clyssura primum in ipso Pago porta eminet operis lateritii simplex, & supra quadratos lapides sita, magnitudineque ampliori multo quam pro usu nostri sæculi. Extra Pagum ad duos sagittæ jactus Arx fuit, quæ in acuto colle condita, qui ab ima valle duorum montium altissime a lateribus viæ impendentium medius assurgit. Manifeste apparet tutelæ cujusdam causa castellum ibidem factum fuisse, quum & angustiæ illæ natura fortes sint, & alia in parte nulla commodius via deduci potuit vel veterum judicio, qui si alibi quopiam loco mitiora juga reperissent, non est dubium quin studuissent commodis viatorum.

Sed

Sed in Vetren quoque Pago ſimili in jugo iiſdem montibus interjecto quadratæ arcis extant ruinæ ſuper etiam terram evectæ, cujus longitudo XL paſſibus, totidem latitudo protendebatur; muri craſſitudo trium fuit. Nec alia ædificiorum veſtigia vidimus niſi per pagorum loca, quæ late circum ruderibus erant conſtrata. Et credibile eſt Hæmi hic fuiſſe clauſtra, quæ ad repellendos hoſtium tranſgreſſus fuere communita, quemadmodum de Thermopylis, de portis Caſpiis, Albanis, Zagri, & ſimilibus legitur apud Geographos. Verum incolæ noſtri ævi, ignari bellorum veterum, quæ inter Græcos, & Thraces, Macedonas, & Romanos ſucceſſivis temporibus per eas Europæ partes viguerunt, ad ſua tempora cunctas accomodant, & trahunt ejuſmodi vetuſtates. Unde et Clyſſuræ Pagum Clyſſuram alii *Novak debeglie* vocant, alii Marci Kraglievith Regulorum Græciæ, eiſque, quoniam per tot ſucceſſiones in his regionibus dominiorum ipſi quoque illas tenuerunt præſidiis, cœca vetuſtatis barbaries originem etiam locorum adſcribit. Sed fallitur, quia veterum eſt utrumque opus. Obſcurum tamen judicatu Græcorum, an Thracum, an Macedonum, an Romanorum exiſtat, quod argumentum nullum aderat, ex quo id perſpici potuiſſet. Niſi ſi Philippo patri Alexandri Magni aſcribatur, qui Philippos, ſeu mavis Philippopolim, aut Trimontium (trino enim nomine utitur) urbem proxime condidit, idque partim contra hoſtes, partim propter utilitatem vectigalium, qui a mercatoribus accipiebantur, qui ſecure ea via utebantur ex Thracia in Myſiam, et hinc in Thraciam freti ejuſmodi præſidiis commeabant. Nec nos puto fallit iſta conjectura: Strabo etenim in VII de hoc ipſo facit mentionem, quum de Strymone amne loquitur, ad quem Philippus eandem urbem condiderat. Ejus verba hæc ſunt. "Quoniam Philippus eximio captus ſtudio ut hæc ſibi loco vendicaret maxima ex metallis, et reliqua locorum ubertate vectigalia conſtituit." Ego hic Pantaliam municipium fuiſſe arbitror; quantumque ex Ptolemæi poſitione poſſum colligere, affirmare etiam audeo. Aliorum tamen ſit judicium, qui propius rei cognitionem acceſſerunt: noſque pergamus ad alia.

Dum hæc luſtramus in hoc jugo loca, cernebamus a dextra nobis Hæmi altiſſimos vertices ingentibus circa ubique aliis montibus adjacentibus,

tibus, et tantam altitudinem perinde atque humeris sustinentibus, et attollentibus, quae maximis nebulis tenebantur. Cogitavi illic esse summos apices memorati Haemi, quia ex eo jugo quem jam superaveramus nullos videbamus eminentiores. Rogavi paganos quonam nomine tam illi vocarentur montes adeo in coelum ardua, horridaque altitudine contendentes quam ille, in quo tunc eramus. Respondere hunc Knissavam, ex illis alios Thecchyam alios Vasilizzam vocari, utrinque ambigue; adeo hic agrestes mortales degunt, qui, quantum et ex iis et ex aliis cognoscere potuimus a quibus locorum nomina exigebamus, ne terrarum quidem quas inhabitant notitiam habent. His igitur contentus hactenus nominibus, quia mora non dabatur perquirendis verioribus destiti ab hac molestia, & paganos ablegavi. Inde conversus per me ad considerandum montis totius statum juxta ea quae jam pridem et in tabulis videram Ptolemaei, et in aliis legeram Geographis, perspexi multa vera esse quae de illo scripserunt veteres. Non praetermittam tamen quin, et ipse aliquid de eo mittam in literas, idque non propter ipsum montem potissimum, sed etiam propter alia quae ad descriptionem attinet nostri itineris.

Igitur ubi hoc jugum Knissavae superatur, ad Vatren Pagum appellitur, qui locus ultimus est hujus transitus, ex eoque brevi lenique clivo in Philippicos campos descenditur, et ad Strymonem amnem acceditur. Mons ipse hoc loco ab ipso summo vertice, de quo supra memoravimus, pandit se velut in duo brachia, sinistroque orienti expositio, in Pontum dirigit, dextro vero primum meridiem, mox occidentem petit ad usque maris Ægaei litora. Ipsa summitas verticis nobis a tergo linquitur, quam quidam Geographi in tantam altitudinem elatam esse memoriae prodiderunt, ut ex eo Pontus, & Adria, et Ister, & quicquid locorum interjacet conspiciatur. Quod quum Polybius quoque Historicus idipsum confirmaret, Strabo in VII minime eum vera dicere coarguit, dicens id esse impossibile propter multas aëris densitates, quae obscurant aciem nostri visus, et propter spatium nimis longum. Multis tamen persuasum est id ita esse. Unde et Philippus Demetrii, & Persei pater hac opinione ductus Haemum conscendit, studio circumspiciendi regiones

regiones & loca, per quae facillime rationes belli gerendi contra Romanos inire poſſet: quod ludibrio non caruit, quamvis eximius Princeps vitare voluerit adjecto vulgatæ opinioni ſuo teſtimonio. Lege Livium Libro x. Dec. IV.

Nos XIV Auguſti digreſſi ab Haemo campos Philippicos ingredimur, et currente nobis dextra Strymone fluvio vix duobus milliaribus confectis occurrit pons, tenui ut tunc erat tempus caniculae amni impoſitus, quo perſpecto cura diligenti, dignum deſcriptione judicavi.

Ex quadrato lapide conſtructus longus eſt CXVIII paſſus, latus minus IX. Quinque habet fornices, medias III magnas, et altas, extremas utroque in cornu mediocres, et humiles; ſed majorum duae collapſae trabibus erant reparatae, & quacunque fuit integer communi lapide ſtratus eſt, habetque a lateribus ex quadratis lapidibus ad umbilicum hominis erecta latera, quae a caſu tutantur tranſeuntes, dum conferti concurſu inter ſe ſtiparentur, et praeterea ut eſſet locus initiendi iis qui amnem caetraque ſubjecta circum oculis proſpectarent. In eo nulla viſitur inſcriptio; cæterum opus Turcium eſt. Fluvius cui eſt impoſitus Topolniza vocatur, fluitque ex his Haemi montibus, quos a ſiniſtra in Pontum directos eſſe dixeram, moxque a ponte vix duobus millibus paſſuum lapſus condit ſe in Strymonem.

Poſt occurrit oppidum Tartar-pazarciz barbaris dictum, quod Emporiolum ſignificat, locus ſatis ſordidus, et in celebriore ſui parte ſtabulis armentorum, ac ferrariis officinis conturpatum; quo praeterito, ad Pagum Govedar ripae Strymonis junctum promovimus, atque ibi noctem conſumpſimus.

Die Auguſti XV e Pago Govedar Philippo, qui et Philippopolis a Philippo conditore dicitur, praeterivimus, et ad Pagum Cognuus nominatum promovimus, quia ibi eo die et nocte hoſpitari malo conductorum ingenio non fuimus permiſſi. Mediam tantum pertranſivimus. Verum,

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Verum, quantum parvo ſpatio temporis eandem urbem perſpicere potuimus, quod prætextu annonæ veſpertinæ comparandæ extorſimus, & pauxillum in altera ejus parte qua exieramus moram traximus, pulcherrimo in loco, in latiſſimis campis, & fertiliſſimis ſita eſt. Turcis vocatur Philibe: Thracibus, Bulgaris, & reliquis linguæ Illyricæ hominibus, quibus eſt poſſeſſa potiſſimum dicitur Ploudin. Romani etiam Trimontium nominavere a tribus monticulis, qui eo loci pene rotundi, in acumen evecti, & junctim directo ordine poſiti in patenti planitie perinde ac ſcopuli quidam e mari eminent; adjacet his quartus etiam, ſed non æque editus, iſque in linguæ modum porrectus, ac ſinuatus ea ex parte qua Strymonem reſpicit, et urbem recepit, in dextro latere Strymonis ſedet una cum aliis. Urbs autem ipſa magnum occupat ſpatium, nec disjectas habet domos ut pleræque aliæ, quamquam hortis immixtas, et latiores quam altiores pro gentis moribus. Si quid inſigniorum habeat ædificiorum, quod de omnibus civitatibus Turcicis dicendum eſt, id Templa, Balnea, Sacerdotum habitacula, et publica Hoſpitia, quæ Kervenzaray nominantur, vindicant ſibi. Cætera omnia humilia, lutea, & ligno commodata, non tamen conſpicua. Eo vero etiam obſcuriora, nec inhabitanda hominibus, quod in parte qua maxime oculos habere deberent cœca ſunt, ſimul cum vicis, qui nullis feneſtris illuſtrantur, ſtipati utrinque afferitiis parietibus ipſarum domorum tecta exæquantibus. Quo fit ut quum per vicos ambulas ſolitudinem diceres, nili quis tibi occurreret, adeo ex feneſtris nemo expicit.

Accolunt Philippopolim præter Turcas Bulgari, & Raſciani, ſed ut ſervitia habentur. Non tamen a religione Chriſtiana prohibentur. Unde quum in hortis ad Civitatem, eadem jam pertranſita, pauxillum ut ſupra dictum eſt prætextu comitibus injecto conſtitiſſemus annonæ gratia comparandæ, quod pagus quem petebamus dicebatur laborare penuria, in Raſcianum hominem incidimus, quo interrogato quomodo vocaretur ei genti proximus mons, quem jam antea dixi ab Hæmi vertice prodiiſſe, & dextra nobis Ægæum mare petere, reſpondit Rupzcam vocari. Inde numquid iiſdem in locis ſciret extare veterum aliquas ædificiorum ruinas, extenſa manu oſtendit fruſta fornicum Aqueductuum in longum ſpatium,

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qui ab hoc ipso monte Rupzca sub monticulis illis tribus in eum usque collem quo sedet Civitas erant invecti. Miratus hoc subjeci: & quid opus fuit aqua peregrina, quum urbem Strymon ac suburbia illius interfluat? Respondit, audisse se a majoribus nunquam fuisse idoneum Strymonem ad potandum; nec modo esse posse si tunc non fuerit. Retulit post, quum de religione quæreretur, nihil eis de hac decessisse, nisi quod qui eam sustentare, & propagare deberent, paullatim in Turcicam degenerent deficientibus senibus, & pubertate liberioris status illecebris pellecta; & simul ostensis digito tribus monticulis, & quantum sedem civitatis quo loco Philippus arcem collocaverat, cujus apparent vestigia, eo, inquit, in utroque vertice (duos e tribus demonstrando) duo olim fuere ampliſſima monasteria; sic enim parentes suos a majoribus accepisse: illudque, quod in primo fuerat monticulo, quum primum Philippopolis in Turcarum potestatem devenerat sine ullius tempestatis, et terræmotus interventu hyatu terræ ipso in vertice patefacto haustum fuisse Monasterium. Et nunc eo loci cavum extare, ac videri murorum submersorum summitates, ipsumque Monasterium Divæ Mariæ Virgini fuisse dedicatum. Monachi intus existentes expertes fuisse periculi.

Aliud, quod in arcis loco erat, quum jussu Turcæ demoliretur quo ejus ruinis aliud quippiam ædificii conderet, LXX ex iis, qui sacrilegis manibus domum Dei frangebant, subitis mortibus per intervalla dierum dum instant operi fuere prostrati, miraculoque apud Christianos utrumque habitum, et mandatum memoriæ numquam interituræ sua gente incolumi. Si in urbe moram feciſſemus non est dubium quin plura cognoscere potuiſſemus, quamquam quidquid uspiam inibi veterum Ædificiorum Turcæ repererunt, & in hodiernum diem usque reperiunt id totum in Templa, Balinea, & publica Hospitia convertunt.

Vicus quo Civitatem transgressi sumus utrinque mercatorias stationes, promiscueque omnium artificiorum officinas, et cauponantium tabernas cum macellis, et hortensium rerum cumulis erat refertus. Accesserat quod et pavimentum ejus altius quam pro urbana mundicie, et conditione temporis adeo erat luto obrutum, ac fœdatum, fuligineque ac fumo omnia

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omnia circum denigrata, ut obturatis naribus præterierimus partem ejus non ultimam.

Alluit autem Philippopolim Strymon fluvius, qui ortus in Hæmi montium jugis, quo loco idem recedit ab Orbello, quæ juga antea dixi ſumma haberi, labitur per campos Philippicos lato alveo, aquis limpidis & piſcoſis, primumque ipſam Urbem Philippos ſive Philippopolim attingit dextro latere ſuburbiis ejus in ſiniſtra relictis, ubi ligneo ponte, eoque longo tranſitu. Inde remotius ad ſiniſtrum latus a via publica evagatus, tribus milliaribus noſtris poſtea in eandem revertitur, in qua Muztaffæ ponte lapideo, eoque præclari operis conjungitur. Inde circumvectus eam oram collibus exultantem abit dextrorſum verſus montes Macedoniæ, hoſque legens quamdiu in conſpectum Hadrianopolis procurrerunt, & curſum in Auſtrum retorſere ad Ægæum mare uſque ſuccedit urbi Hadrianopolis quamproxime, eoque loci recepto amne Toncia (quem putarem Neſſum eſſe, et Ptolemæo Tonzos dictum) ab Aquilone ex Hæmo monte deſcendente, ac ſecante ima Civitatis qua ad ſuburbia conjungitur, in meridiem labitur, donec ad Ægæi maris appulſus littora paullo ſupra Urbem Aretuſam mari miſcetur. De quo poſtea.

Verum ne quid ommittatur, quod ad inſtitutum opus pertineat Pontis memorati deſcriptionem faciam.

Pons longus eſt paſſus cccxxv, latus viii, altus ſeſquihaſta velitari in medio ubi eſt altiſſimus; quod ad utrumque caput in declive pendet propter aſcenſum ejus faciliorem, et pluviarum ex eo decurſum. Fornices habet xxi, a mediis alios aliis omnes minores. Cætera ut alius, qui eſt in amne Topoliza ultra Philippopolim, niſi quod ripæ alvei Pontis cornua ſuſtinentes, et dextra, et ſiniſtra quadrati lapidis muro quatuor cubitorum altitudine quadamtenus emunitæ ſunt, ne vi aquarum arroſæ ſolvendi Pontis cauſa præbeatur.

Proſpectum eſt, et pilarum firmitudini & æternitati. Sub fornicibus quanta eſt Pontis longitudo fundus fluminis ſupra, & infra ipſum Pontem confixus eſt creberrimis vallis, & glarea exaggeratum in tumorem

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non impenſe altum, ſed eo tenus quo quum ſubita fluminis incrementa ingruerint fundamenta pilarum ejus denudare, ac ſubruere non valeant. Ab utroque autem latere vicum habet, et viæ Trajanæ jungitur, quæ ſummo ſtudio tenetur, & identidem reformatur.

Vocatur autem Muztaphae Pons ab auctore Muztapha. Hic enim Bajazitti Principis temporibus gravi jam ſenectute effœtus, et opulentus, quum expiandorum peccatorum gratia pro more gentis ſuæ vellet publico commodo opus aliquod condere, Ponte decrevit Strymonem jungere, idque eo loco viæ publicæ quo, & difficilem & periculoſum tranſitum viatoribus exhibebat. Aggreſſus itaque opus magnæ & molis, & impenſae magna mente illud perfecit, facileque cum Veteribus certare poteſt.

Caeterum Philippenſes, ad quos Divus Paulus Apoſtolus ſcribit, hujus Civitatis erant incolae, in cujus campis pugnavit primum Julius Caeſar cum Pompejo, deinde Auguſtus, & Brutus cum Caſſio, tantaque tumulorum per totos latiſſime campos erectorum cernitur copia, in quamcumque partem oculos verteris, ut numero eos comprehendere non facile poſſis. Nec dubium eſt vel praeſentium indigenarum teſtimonio Ducum ac Virorum illuſtrium fuiſſe ſepulturas. Qui mos unde originem hunc in modum ſepeliendi homines ſummos acceperit nunc non ſuccurrit mihi. Revera tamen ſepulturas eſſe licet & ex Virgilio cognoſcere. Ait enim in III de funere Polydori:

Ergo inſtauramus Polydoro funus, & ingens
Aggeritur tumulo tellus.

Et in VII de Cajeta nutrice Æneae:

At pius exequiis Æneas rite ſolutis,
Aggere compoſito tumuli, poſtquam alta quierunt
Aequora, &c.

Eſt & in VI ſimile, quod huc facit, de Palinuro:

Quod te per cœli jucundum lumen, & auras,
Per genitorem oro, per ſpem ſurgentis Iuli,
Eripe me his invicte malis, aut tu mihi terram.
Injice, &c.

Ubi

Ubi ſepeliendis corporibus, dum ejuſmodi tumuli excitari inciperent, primus terram cadaveri injiciebat qui eſſet proximior conſanguineus, vel uxor viro, vel vir uxori: aut ſi nullus horum adeſſet, et res ageretur in exercitu, Dux hoc officio pietatis, aut qui digniſſimus extitiſſet, vel amiciſſimus fungebatur. Unde et hic Palinurus ab Ænea, et apud Ovidium Penelope exigit a marito ut Telemachus filius communis utrique extrema juſta perſolvat, quum dicat:

Ille meos oculos claudat, & ille tuos.

Verum, priuſquam exeam e campis Philippicis, dicendum mihi eſt nonnihil de hac ora terræ debeatne Thraciæ, ac Macedoniæ adſcribi. Ptolemæus enim libro III Tab. Europæ X Strymonem amnem oriri in Montibus qui Thraciam dividunt a Macedonia. Strabo quoque, Ptolemæo vetuſtior, idem videtur ſentire in VII Libro. Trans amnem, inquit, Strymonem ad Ponticum oſtium, & Hæmum montem cuncta ſunt Thracum, excœpto litore quod Græci tenent. Nec diſſentit Solinus, qui ait inter Macedoniam, & Thraciam Strymonem facere terminum, eaſque terras, ab Hæmo irrigare. Ad quam ſententiam Lucas etiam Evangeliſta noſter in Apoſtolorum Actis, cap. XVI accedit. Navigantes autem, inquit, a Troade recto curſu venimus Samothracem, & ſequenti die Neapolim. Inde Philippos, quæ eſt prima partis Macedoniæ Civitas Colonia. At perſtante firmiter Ptolemæo, in ſententiam it idem Strabo, quum eodem ipſo libro VII dicat pleroſque totam a Strymone plagam ad Neſtum uſque amnem Macedoniæ aſcribere, quo fortaſſe Tonciam amnem Neſtum vult eſſe. Solinus, qui etiam Polyhiſtor, Rhodopem appellat Mygdonium quia eſt provincia Macedoniæ Thraciæ contermina; & Ariſtoteles etiam hoc adſtipulatur quando dicit, extare in campis Philippicis Macedoniæ aurifodinas quamplures. Mela vero Pomponius ſcripſit Thraciam montes attollere Hæmum, Rhodopem, & Orbellum, quum tamen totus Orbellus Myſiam inſideat. Quo igitur pacto in utramque partem id probari poſſit equidem non video, præſertim in hoc curſu itineris, & in tanta non ſolum novorum, ſed etiam veterum auctorum diverſitate ſententiarum. Unde haud dubie palam eſt veteres quoque multa ſcripſiſſe, ex relatu et lectione priorum,

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non experientia propria. Ideo nec ipse sudabo in hoc curriculo, quum & incolæ etiamnum varie de hoc sentiant, aliique Macedoniæ alii Thraciæ oram hanc attribuunt; & facile futurum arbitror ut harum Provinciarum veterum termini confundantur, & excidant si hoc Imperium majora sumet incrementa. Sed jam ad Strymonem, post quem suo loco etiam de aliis hujus Thraciæ partis amnibus Tonza, Nesso, Hebro, Melani, Arzo, Athyra, & Bathynia attingemus quædam non indigna consideratione, multisque, & veteribus et novis præterita; qui amnes hoc ordine ut nos posuimus Strymonem sequuti usque ad Promontorium Chrysoceros appellatum, in quo situm est Byzantium, cursum in mare tenent, præter Tonzam, qui miscetur Strymoni. Quare ortus Strymon in Hæmi montis radicibus eo fere ipso loco, in quo recedit ab Orbello, ab Izcaris quoque fonte, quem Ciabrum veteres vocavere, ut jam a nobis antea dictum est, haud multum disjungitur, eo modo quo a Rheno Danubius. Simulac autem caput exerit tenuem admodum referunt esse incolæ, sed quod mox diversis rivis ex Alpium hinc inde jugis prolabentibus auctus fit aliquanto alienis aquis amplior, quod & Pomponius Mela testatur. Vectus inde per multos convallium anfractus aliquot locis per montium sinuationibus dilatatur, hoc ipsum Plinio quoque affirmante, qui dicit eum prius in VII fundi lacus quam cursum dirigat. De quibus tamen lacubus nihil nobis affirmavere incolæ. Nec his angustiis longiore spatio detinetur quam bidui, summis eidem Hæmi jugis incumbentibus, quæ Philippo olim Regi Macedonum conscensa, curiose etiam peragrata sunt. Evolutus dehinc e montium claustris jugum, quod barbari Illyricæ nationis *Vetren*, nos ventosum dicimus, uti supra est memoratum, in læva dimittit. In dextra vero eos montes quos Vasilizam, & Zlavievi incolæ nominant, & ab Hæmo sciffi amne Strymone, nec disjuncti ab Orbello, ut in Tabulis videre est Ptolemaei, Philippopolim usque ubique eundem Strymonem comitati, postmodum per Mygdoniam ultimam è regione Thraciæ provinciam Macedonicam in Ægaeum mare descendunt, qua Lemnos insula, & mons Athos, nobis Sanctus appellatus, eminent. Lapsus autem ab ipso usque fonte in orientem primis semper, & flexuosis progressibus, ubi primum prodit in plana ortum in tergo deserit, cursumque

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curſumque lato jam alveo, & multis aquis conſpicuus in vulturnum per Philippenſes campos dirigit. Per quos late, initio dextra ora viæ publicae, ſive Trajanae praefatorum montium ima faecundando expatiatus, ad Philippopolim in eandem viam redit. Ibi deinde inter urbem, et ſuburbium accepto ponte ligneo verſus Haemum ad ſiniſtra recedit, qua per majora ejus planitiei ſpatia egreſſus, et longe lateque divagatus denuo, in memoratam viam majore jam ſui et nomine, & exiſtimatione revertitur ad Muztaphae vicum, ubi & Pontem hujus nominis a conditore nuncupatum ſubit. Poſt iterum repetito dextro latere, & v circiter milliaria noſtra emetitus accedit tantum proxime ad Civitatem Hadrianopolim, qua perinde atque ex debito quodam a limine ſalutata, totus in Auſtrum torquetur verſus Ægaeum. In quo tractu duobus pontibus acceptis, priore ligneo, poſteriore lapideo, et in via Callipolitana poſito, mare demum ſupra dictum illabitur. Hoc proinde curſu, quem ab Haemo ad mare obtinet, neſcio an plura, verum majora recipit flumina, quam quae recepit inter montes. Duo primum dextro latere, & utrumque ex montibus Baſilicis decurrentem Ztaram Richam, hoc eſt antiquum flumen, ad Philippopolim, et Ardam paullo infra Hadrianopolim: laevo deinde quinque. Topolnizam citra oppidum Tartar-pazarzik, ultra Jadinam, paullo poſt Cruzkam, inde Gergovam, mox Tonzam eodem fere loco ſub Hadrianopoli quo Ardam. Ubi ponte etiam ligneo jungitur, Tabaclar ab opificio coriariorum Turcis nuncupato, quod ibidem exercetur propter aquarum facultatem. Nec plura diſcere potuimus, praeſertim quae a dextra ora in eum incidant. Verum quoniam campi Philippenſes ad producendam oryzam maxime ſunt idonei, eoque genere leguminis multum exuberant, Jadinae aquis potiſſimum irrigantur, quae longa jam indigenarum induſtria in complures eaſque amplas paludes infuſae, ac in meatus derivatae plurium amnium ſpeciem praebent. Quo fit ut mediis etiam caniculae fervoribus luto ea via fœditur. Nomina autem Strymon tria habet: hoc primum, quod & Graecis, et Latinis commune eſt; ſecundum Mariza, quod Illyricum eſt; tertium Mericz, quod Turcicum. Caeterum quum hodiernum ejus nomen recentiores quidam auctores Hebro adſcripſerunt Marizam appellantes, minime edocti recte ſunt quandoquidem et Graeci, et Turcae,

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et quaequae aliae nationes inibi incolentes Hebrum, hoc temporis Ergienem vocent. Tum illi a Ptolemaeo quoque vera ſua in Tabulis poſitio non eſt attributa. Alluit enim Philippopolim dextro latere, ſiniſtro vero Hadrianopolim. Ptolemaeus autem illum, et ab hac urbe, et ab illa remote collocavit, quum interim & Hadrianopolim cum Philippopoli eandem eſſe Civitatem ſcribat, contra claſſicos auctores, et publicam experientiam. Quod qui videre propriis oculis, et Tabulas ejuſdem Ptolemaei diligentius conſideravere facile perſpicere potuerunt. quod patefacimus. At jam ulterius.

Porro moti ex Pago Cogniis ſive Conſthyza, quod a ſtatione equorum nomen eſt ſortitus, Clocodvizam XVI Auguſti, hinc vero ad Hormanles XVII, quae duo loca ſimili modo Pagi ſunt; & XVIII ad Pontem ac vicum Muztaphae pervenimus. Qui tractus quoniam aridis collibus, lociſque incultis, & memoroſis late patet, nihil in eo offendimus, quod fuiſſet notatu dignum, praeter memoratum Pontem Muztaphae, de quo jam abunde recenſuimus.

Verum XIX Auguſti relicto Ponte Muztaphae venimus Hadrianopolim terra ſuperiori ſimili. In quo ſpatio, nec a Ponte multum longe, vidimus dextrorſum in Strymonis ripa oppidum Ciermenium, quod ex aedificiorum ruinis veruſtam aliquam urbem fuiſſe apparebat. Nunc Zagarenſi Zangziaccho ſedes eſt. Zagara autem oppidum eſt ad radices montis Haemi ſitum, qua parte imminet ab ortu campis Philippicis, totuſque is tractus una cum ea parte montis praefati Zagarenſis Comitatus hoc tempore appellatur, quum antiquo Praetura Beſſica vocatus fuerit, a Beſſis populis, quos veteres auctores Haemi accolas, Neſſoque amni, & Pangaeo monti, in quo ſita eſt Hadrianopolis, conterminos fuiſſe prodiderunt. De quo lege Ptolemaeum, & Pangaei montis apud Vocabularios poſitionem.

Oppidum vero Ciermenium ſequitur amnis Gergova, ille quidem alveo exiguus, minime tamen aquarum indigus. Et mox Civitas Hadrianopolis.

F I N I S.

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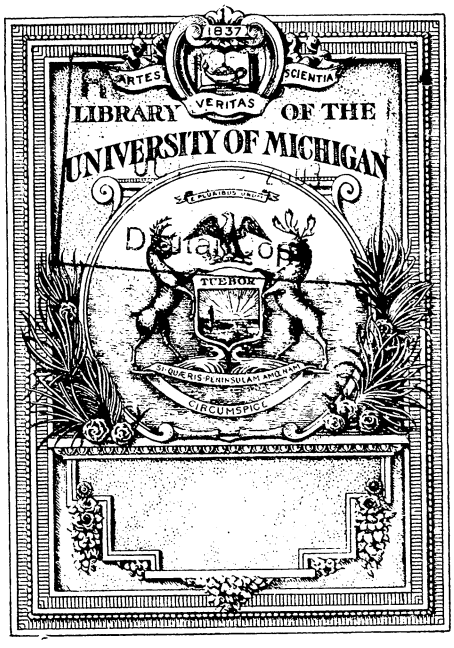

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